DOMESTIC ENGINEERING

PUBLISHED EACH SATURDAY
BY

Domestic Engineering (Inc.)

Jno. K. Allen, President and Treasurer.
Elmer Crawford, Vice-President.
Frank P. Keeney, Secretary.
E. D. F. Winslow, Asst. Secretary.

Jno. K. Allen, Editor.

MAIN OFFICES:
49-53 NORTH JEFFERSON STREET, CHICAGO, ILL.

SUBSCRIPTION RATES:

United States, Cuba and Mexico.....$1.00 a year
Canada and Foreign Countries.....$2.00 a year
8 shillings. 8 marks. 10 francs.

Single copies of current issue, 5 cents; copies of back numbers, 10 cents each.

REMITTANCES.—Subscriptions are payable in advance, and remittances should be made by check, Chicago draft, postal or express money order, in favor of DOMESTIC ENGINEERING.

CHANGE OF ADDRESS.—The old address should be given as well as the new, and notice should be received a week in advance of the desired change.

NOTICE TO ADVERTISERS.

Copy and cuts for advertisements intended for a particular issue should reach the office of DOMESTIC ENGINEERING on Wednesday of the previous week if it is desired that a proof of the advertisement shall be submitted. New advertisements can be received up to noon of Wednesday of the week of issue, but no proof can be shown.

Entered as Second-Class Matter at the Post Office at Chicago, Illinois, Under Act of Congress of March 3, 1879.

Member of the Chicago Trade Press Association.
Member of the Federation of the Trade Press Associations of the United States.

Whole No. 845. Vol. xlvi. No. 8. Chicago, February 20, 1909.

The best salesman of plumbing and heating installations is he who is able to make each sale accomplished an influential factor in bringing the next sale about. The difficulty of salesmanship is very greatly enhanced by the installation of cheap goods, in which case every sale becomes a "knock" instead of a "boost". Get the principle established in your business of using only first-class goods bearing the maker's name, behind which he stands with responsible guarantees.

A Grand Opportunity for Thousands of Ambitious Men to Better Their Conditions

Read and Digest every Word of this Editorial

Thought and action are the potent forces that will make the civilizing influences of the Twentieth Century supreme.

Thought and action are the levers with which the American nation is, commercially speaking, conquering the earth.

With these two civilizing factors as levers we are prying off the lid of commercial inertia so fast that the nations of the earth fairly stand aghast at our marvelous triumphs.

The English language is the dominant language of this age of invention. It will always be the language of force, consonant with the action displayed by the most aggressive people of this or any other age.

The American today, entering upon man's estate, is confronted with problems awaiting solution far more bewildering than the seeming perplexities of all the ages that have preceded this era of husbandry, industrial and civic evolution.

This century will see the most stupendous onslaught upon the forces of nature for the ultimate betterment of the conditions of mankind, ever inaugurated since primitive man first began to measure his environments.

The potentiality of electricity will be multiplied a thousand-fold. The air we breathe will become thoroughly subjective to the will of man and obey his behests. The soil of the earth will be amplified by scientific treatment to such an extent that it will support hundreds of millions of human beings in this country.

The waves of the oceans will do the bidding of man and furnish unlimited power to successfully project the inventive plans he will ultimately consummate.

The heat of the sun will be garnered so completely as to become a commercial product, plentifully distributed throughout the colder climates, and redound to the comfort of all nations.

Truly this is the agglomerate as well as the inventive age.

The Baconian philosophy thundered with augmentative precision in the ears of our immediate predecessors of the last century and we are today reaping the benefits in an enlarged scope of vision.

Bacon enlarged upon the tenets of the immortal Aristotle, and pictured in unmistakable terms the triumphs of applied thought. Thought, coupled with action, is responsible for the magnificent spectacle now beheld by all nations in the free-for-all race for material supremacy.

Should not every man see that knowledge is all

forceful? If he would better his condition in life he must acquire knowledge and use it to aid him.

In less than five years there will be an opening for thousands of ambitious salesmen in the Spanish-speaking countries south of us. Any man with a fair English education can easily learn to read and speak Spanish. It is a direct language, thanks to the Roman conquerors and the permeating effect of the Latin language, the basis of both English and Spanish.

The eyes of commercial America are now centering upon the Spanish-speaking countries and our aggressive manufacturers will be ready to employ thousands of salesmen, who can speak Spanish, immediately following the opening of the Panama Canal.

Yes, there is going to be a grand rush for those fields. At last the manufacturers of this country begin to realize the necessity of immediate action looking toward a large increase in business with these nations. They have observed how easily the gates of commerce may be closed against them through the efforts of nations more contiguous to certain coveted spheres of commerce. In the space of four years China's imports from this country shrank from 53 millions to 22 millions of dollars.

Inside of 10 years continental Europe will be a veritable battleground of commerce with American manufactured goods handicapped in the race by distance and fierce home competition.

The employment of American machinery, manned by skilled mechanics, is fast revolutionizing conditions in England, Germany and France, to the detriment of American trade. Consequently, **it behooves our manufacturers,** whose products are increasing at the rate of over 50 millions of dollars yearly, **immediately to begin the conquest of Mexico, Central and South America,** where, up to the present, the European nations have acquired a strong lead.

The excess of exports over imports of the United States in 1908 was $666,431,554. Out of a total export trade of $1,860,773,346 in 1908, about one-third will be found to be manufactured products.

The twenty Latin-American republics, with a total population of 70,000,000, covering three times the territory of the United States, conducted a foreign trade in 1907 of $2,100,000,000, which shows an increase of $134,000,000 in one year. This indicates that these republics are importing and exporting every year two-thirds as much as the United States. In the past 10 years the trade of the Latin-American republics has increased 120 per cent, or over $100,000,000 a year.

In 10 years the foreign trade of Argentina increased from $193,000,000 to $583,000,000 and Brazil from $235,000,000 to $494,000,000. In eight years Cuba increased from $125,000,000 to $209,000,000.

It is a well known fact that the United States has been backward in seeking the enormous trade developing among these republics, and that the European nations have been alive to this inertia on our part and taken advantage of it to their financial betterment.

Now there is an awakening to these losses in nearly every line of trade in this country. As soon as the Panama Canal is completed there will be **an impetus given to trade** in this direction **exceeding that attained in any other section of the world.**

A very surprising feature of the trade with these countries will be found in the fact that **our exports to these republics in 10 years increased 240 per cent,** despite the lack of particular interest taken by the people of this country in that direction. But this enormous increase is far more significant when we consider the republics nearest us. Our exports to the West Indies, Mexico and Central America are most satisfactory at present, but **can be very largely increased.** Our trade with the republics of South America, however, is most unsatisfactory when we compare it with the enormous trade the European nations are now receiving from this particular section of the western hemisphere. There will be a grand opportunity in that section for an enormous increase in trade as soon as the Panama Canal is completed and an impetus given to the shipping between the United States and South America.

The visit of President-elect Taft and coterie of eminent engineers to the canal zone and their optimistic conclusions upholding the present status of affairs in that section of the world is certainly reassuring and will probably put a quietus upon the michief makers attempting to stir up trouble either for political revenge or for financial gains. **What we want is the completion of the canal at the earliest possible moment in keeping with safe engineering advice and conclusions.**

There is certainly **a large share of credit due Hon. John Barrett,** director of the International Bureau of the American Republics, **and his able body of assistants** who have worked untiringly to advance trade and maintain friendly relations with the Spanish-speaking republics and we sincerely hope their efforts in this direction will be thoroughly appreciated by the people of this country.

The young men who are engaged in these trades, **who desire to better their conditions,** should certainly grasp the opportunity of learning to read and speak Spanish. There will be thousand of chances for bright young men versed in the Spanish and having a knowledge of trade terms and conditions in this country, to go down to these republics and teach them how to do business according to the hustling American standards. **They should be taught to appreciate the best made American products backed by up-to-date methods of exploitation and thousands of young men in the next ten years will have a hand in turning the enormously increasing trade of these republics to the United States.** Elmer Crawford.

A Good Reason.

A professor tells this story at his own expense. He was instructing a class of boys about the circulation of the blood and to make sure that they understood him he said:

"Can you tell me why it is that if I stood on my head the blood would rush to my head, and when I stand on my feet, there is no rush of blood to the feet?"

Then a small boy, after pausing for a short time, answered:

"It is because your feet are not empty, sir."

Cast Iron Pipe and Fittings—Their Defects*

By Chas. R. Schmidt, of Baltimore

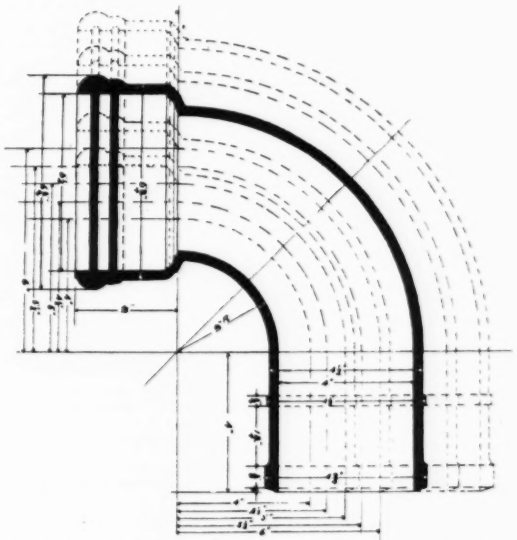
Associate Member of A. S. I. P. & S. E.

The plumbers and sanitary engineers of the United States have reason to pride themselves that for the past twenty years they were far ahead of all countries in the installation of house plumbing. Globe-trotters from other countries admire and envy the comfort and elegance of the American bath and toilet room, and citizens of the United States with a feeling of pride look down upon the marked inferiority of the average foreign bath room equipments. How these same citizens enjoy the American luxuries when they land again upon the shores of their own country can only be appreciated by those who have seen the difference between the conditions abroad and here.

The manufacturers of sanitary vitrified earthenware, enameled iron ware, and metal fixtures, the sanitary plumbing inspectors and the intelligent and progressive members of the Boards of Health of the various American cities, are entitled to a great deal of credit for the results obtained in this country. The sanitary plumbing inspectors are entitled to the highest praise, with their intelligence, knowledge and experience, for their desire to be true to the trust placed in them by their city governments, and for their endeavors to have only the best systems and methods of installation of house drainage in their respective cities. Their efforts have often been met and have frequently been opposed by the schemes of unscrupulous manufacturers, contractors, builders, and even plumbers, to evade the rules and regulations. This opposition was often caused through ignorance of the importance which a perfectly ventilated and properly installed system of house drainage bears to the health of the inhabitants of the house. The growing realization of the importance of the principles governing sanitary installations is gratifying, and thus makes the inspectors' work easier each succeeding year. The duties of the plumbing inspectors are of the utmost importance to a city, and rank in their profession with those real heroes of humanity, the physicians; the one preventing disease, the other curing.

We have beautiful bath and toilet rooms, but haven't we stumbled along to obtain them? Have we looked after the base, or have we obtained only a beautiful but unsupported superstructure? Good water and good drainage are the essential requisites of a healthy city, without which the most salubrious climate avails nothing.

There is a grave question concerning the existence of certain diseases, much more prevalent in the cities than in the country, as to whether they do not entirely arise from the leakage of so-called sewer gas into the house (no doubt to a large extent illuminating gas from underground gas supply mains leaking into sewers) or from other causes.



Regulation ¼ Bends, Extra Heavy, from 2 to 6 inches.

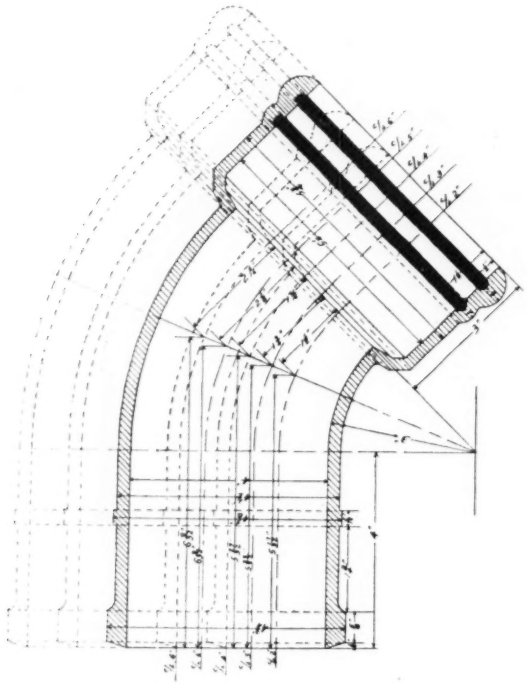
Our duty is to perfect house drainage. Have we done so? Have we begun at the most vital and important point, the base, the sewer, or are we satisfied with beautiful fixtures and re-vent systems, connecting same to the ventilated soil pipe stack? Thirty or more years ago we taxed our gray matter to design traps to keep the sewer gas out of the rooms, mercury seal and other mechanical and non-mechanical seal traps were invented, made and put in use; it was a hopeless task, the sewer gas would not stay bottled up, and gradually the happy and simple way of "letting her go" up the stack to the roof or in the warm chimney settled the whole matter simply and easily. Have we gone far enough? Are we not bottling up the gases in our street sewers? Should not our main sewers be ventilated as well? It could be done with a comparatively small expense by building ventilating stacks. Would it not be safer for our house drainage systems and prevent the stench at the sewer inlets at our street corners?

Illuminating gas from leaky gas mains often finds

*Read at the fourth annual meeting of the American Society of Inspectors of Plumbing and Sanitary Engineers, held at Omaha, Neb., February 8-10, 1909.

its way into the sewers, explosions are the result, causing damage to property and often loss of life. In my own city of Baltimore, several explosions have occurred from this cause; in the last explosion, five lives were lost. Had the sewers been properly ventilated these explosions could not have occurred.

Following the terra cotta pipe with its often badly made or leaky cement joints to the house line we come to the *Iron Soil Pipe*. The main trap is



Regulation ⅛ Bends, Extra Heavy, from 2 to 6 inches.

the first *fitting* we encounter, with the inlet and outlet on the same level. Is this not a wrong construction? Does this not impede the flow of the discharging water and soil, causing the soil and paper of the discharged closet to remain on the house side of the trap, to stick fast and become hard unless it is loosened by the next discharge of the closet, providing it is not at too long intervals. We have experimented with the horizontal line cut open at the top and found this to be the result. At Baltimore the rules require the running traps to have the outlet two inches lower than the inlet. This is quite an improvement, and experiments demonstrated the heavy matter and paper went generally through the trap or remained in the trap and not in the horizontal line on the house side. The regular closet tanks were used in this experimental work.

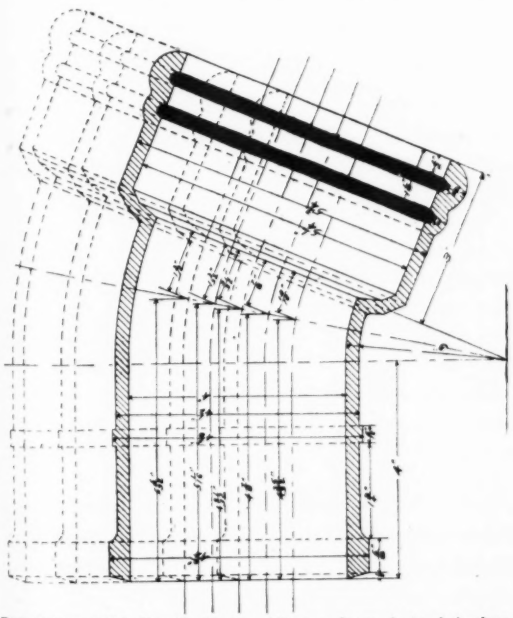
Next we come to the horizontal line in the cellar. It is here that some of the older countries are ahead of us, inasmuch as they require all horizontal lines of less than 12½ degrees angle to be *glass enameled*. You can readily see the advantages; I need not dwell on these. Less than ten dollars a house would cover the entire cost. Let us examine the joints of this horizontal line in the cellar of the house. In some the lead seems to have grown or is trying to come out of the joint. We can plainly see that the lead does not completely fill the space between bell and spigot of the pipe. The alternate cold and hot water discharged through the pipe, the settlement of the walls, and shrinkage of the floor joists are the principal causes for this loosening of the lead. *The statement can safely be made that there is not a soil pipe job which is gas tight one year after it has been in use, perhaps not a month after it has been carefully tested, inspected and passed as gas tight.* They will not hold even a few ounces of air pressure. Professors Woolston, Lucke and Morris of the Columbia University, in a report to the New York authorities, dated July 29, 1908, have this to say regarding the present soil pipe and fitting hub and lead caulked joint:

"This joint, specified and regularly approved by the Building Bureau, is probably as bad a joint as ever invented. All waste pipes and vents are alternately heated and cooled by water flowing through them and must therefore expand and contract. Any strong pressures on the lead will deform it, just as does the caulking tool that was used to make the joint tight originally. Heating of the inner pipe by hot water flowing through it will cause an internal pressure on the lead, and will squeeze the lead outward against the hub, which, resisting the movement may cause the lead to flow upward slightly. A subsequent cooling of the inner pipe will cause it to shrink and as the lead is not as elastic as the iron the lead will not follow and there will be left a free space through which gas may easily leak."

Next on the line we come to the bend, sanitary tee or Y, as the case may be, connecting the horizontal line with the vertical line in the house. Here we find even a worse condition than at the joints of the horizontal line. The drop of the water from the closets and the fixtures, ten to sixty feet distant as the case may be, acts like hammer blows upon the fitting connecting the horizontal and vertical lines. This fitting in the majority of cases has no support, depending entirely upon the lead joint previously described to hold it in position, and there is today in the United States not a line which does not leak at this joint, for reasons so eloquently and plainly described by the professors of Columbia College about six months ago. It is a broad assertion to make and

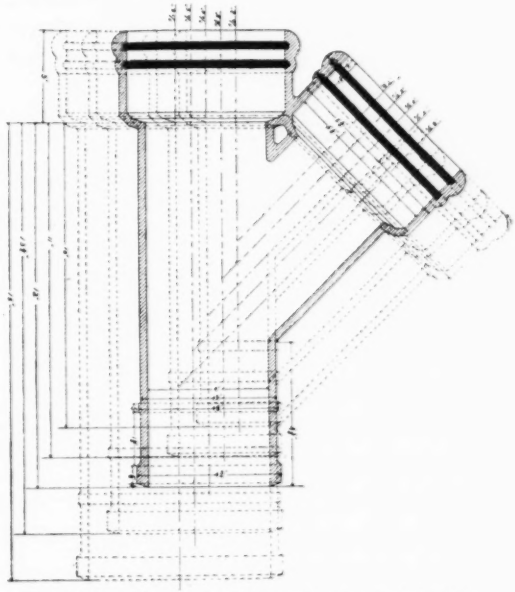
it may not be pleasant to hear, but let us have the truth even if unpleasant. Truth is mightiest of all. Should we not try to correct this? Is it not the duty of the sanitary engineers and the plumbing inspector to correct it or at least improve it if it is possible and practicable to do so? They owe it to the trust the Boards of Health and the public places upon them.

The conditions mentioned can be improved upon, and very materially so, by simply adopting the use of a hub with two grooves in it to engage the lead and the spigot end with a small ring cast upon it opposite the grooves in the bell in the part to be filled with lead. The lead will shrink longitudinally or parallel with the line of the pipe and shrink upon the projection between the grooves in the bell and the ring in the spigot end, making it a tight joint without caulking, simply by the shrinkage of the lead. It can be caulked in addition, and the caulking of this sort of joint with the groove and band will be a more solid and better job, as practical plumbers can readily see at a glance. The ordinary bell and spigot pipe for gas and water has a groove



Regulation 1/16 Bends, Extra Heavy, from 2 to 6 inches.

in the bell to keep the lead from "creeping," caused by expansion and contraction. Our European and South American friends in the sanitary line insist upon a groove in the bell for the same reasons; now let us go them one better and insist upon *two* grooves in the bell and one corresponding band on the spigot end, and we have theoretically and practically a better joint than any of them. I advocate a ring on the spigot end and not two grooves as in the bell end, for the reason that the grooves in the spigot end will weaken the walls of the pipe and a side strain would easily break the pipe at this point. A ring strengthens it instead. The walls of the

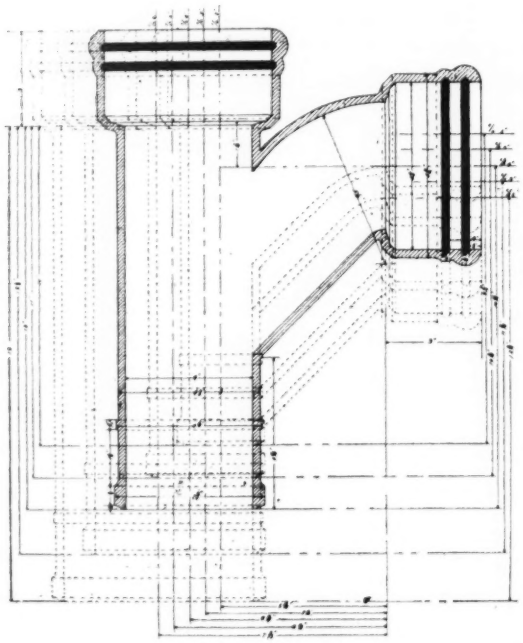


Regulation Y's, Extra Heavy, from 2 to 6 inches.

hub can be thickened up and strengthened at will at the point where the grooves are located. I submit drawing showing a broken section of the joint proposed, also some full size samples of hubs in half. In practice it will be found that the curved lines at the bead end of the hub are more elastic and will stand much more strain and pressure and cannot be as easily split as the square band of the present style. While improving our soil pipe and fitting hubs would it not be an opportune time to standardize our extra heavy pipe and fittings as well, making one job of it?

Our soil pipe and fittings for same are a disgrace to the engineering fraternity and a fraud upon the public. Concerted action is necessary to overcome it. The plumbing inspectors are the only men who can do it and do it rightly. They also can protect the public and make the manufacturers and dealers produce goods as they should be made from a sanitary as well as a mechanical standpoint. That they are a disgrace from a mechanical and engineering standpoint is mostly the fault of the Building and Health Departments of our cities, who have been making rules and regulations in a rule of thumb fashion. Every city has different rules and

regulations, and each thinks its own the best. The impartial engineer will have to say like the Irishman "Nayther is right." For instance, one city requires extra heavy soil pipe to be of a certain weight *per lineal foot;* another city requires extra heavy soil pipe a certain weight *per length.* In both cases nothing is said of *the hub,* which is nearly one-tenth of the total weight of a five-foot length of pipe, but nearly all agree that extra heavy pipe should be of



Regulation T Y's, Extra Heavy, from 2 to 6 inches.

¼-inch wall thickness, which again conflicts with either of the first two mentioned requirements. Now, as a matter of fact, basing it on the weights per length of pipe required, including hub, namely:

2″ extra heavy 27½ lbs. per length
3″ extra heavy 47½ lbs. per length
4″ extra heavy 65 lbs. per length
5″ extra heavy 85 lbs. per length
6″ extra heavy 100 lbs. per length

the wall thickness of the 2 inches is less than ¼ inch, while others are of more than ¼-inch wall thickness, and to make matters still worse in many of the rules nothing is said of *the wall thickness* of the *extra heavy fittings,* which are mostly less or about the wall thickness of 2 inches extra heavy pipe, or less than ¼-inch wall thickness. The fittings are a considerable part of the line, and as the weakest link of a chain represents the strength of the whole, therefore extra thickness in the pipe walls is practically *waste for which the consumer has to pay.*

Again, the rules and regulations prescribe a certain weight for the soil pipe per foot or per length. Is it not placing a hardship upon the plumbing inspector to find ways and means to *weigh up the pipe?* The department does not provide him with a wagon and scales to weigh the pipe, and he should weigh it to carry out his instructions. Would it not be a much more practical and an easier way to change the rules and regulations from the conflicting weights and simply reduce it to *"Wall Thickness?"* This would immediately make everything uniform and put it upon a mechanical basis, easily carried out and controlled. The inspector could control it with a pair of pocket calipers at the buildings.

A length of soil pipe should make up exactly five feet in the line exclusive of hub; investigation will reveal that some makes of pipe will only make up 4 feet, 11 inches and even less. How much this costs occasionally need not be explained to you practical men. That it is not right to sell 4 feet, 11 inches or less for 5 feet is plain.

Soil Pipe Fittings are the worst bedlam of comparisons from every point of view. Each manufacturer has his own ideas regarding sizes, weights and wall thicknesses. Some differ as much as 25 per cent both as to size and weights, and it leaves the door wide open for sharp practices, if not for frauds. How much *trouble, expense* and *delay* it causes a plumber, which is either his loss or for which the *customer innocently has to pay* when neither is at fault, can readily be seen. A plumber lays out his work according to one make of fittings, and even in the same lot purchased from one jobber may be a number of different makes and *not one make like the other in measurements.*

In repair jobs the time and delay caused by fittings of different makes not interchangeable often costs more than the value of a number of fittings. All this can be changed by you, by adopting the improved joint for soil pipe and fittings, permitting no other joint to be installed after a certain date, compelling wall thickness of extra heavy fittings to be not less than ¼ inch, and by allowing a reasonable and liberal length of time to make the change to dispose of the old stocks of pipe and fittings on hand.

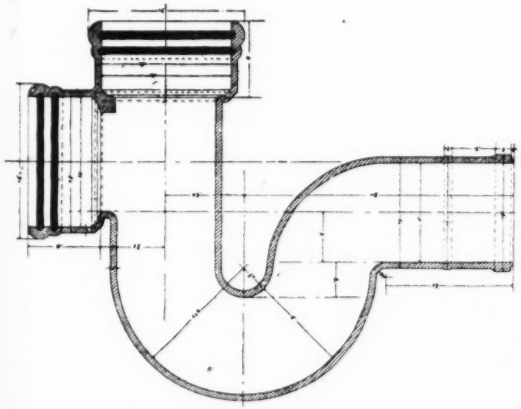
In cities of the first class, *for extra heavy pipe July* 1, 1909 could be the date, after which no more old joint pipe should be permitted to be used. Every responsible and progressive manufacturer of soil pipe and fittings would embrace the opportunity

to standardize his goods and adopt your suggestions.

From a *foundry standpoint* it would involve *no hardship*. The whole present pipe equipment of flasks and core arbors could be used for the new joint; the cost for the changes on the pipe patterns would only be a trifle.

For fittings, January 1, 1910 could be the date, after which no more old joint extra heavy fittings should be permitted to be used in cities of the first class. The building lengths of the main stem of each size Y and sanitary tee, also the radii and lengths of the various bends, cannot, perhaps, be stipulated in the rules and regulations of the Building or Health Department, therefore if the new improved hub and spigot joint are demanded by the respective Departments, the standardization would be the natural consequence, and your recommendations would be adopted by all up-to-date and progressive manufacturers.

In concluding I wish to add that the members of this Society in considering the proposed rules for soil pipe and fittings should never lose sight of the fact that the Board of Health and the Plumbing Inspectors are the direct representatives of the people who are the buyers (respective consumers) and to merit their confidence they can and must



Regulation Running Trap, Extra Heavy, 4 inch by 4 inch.

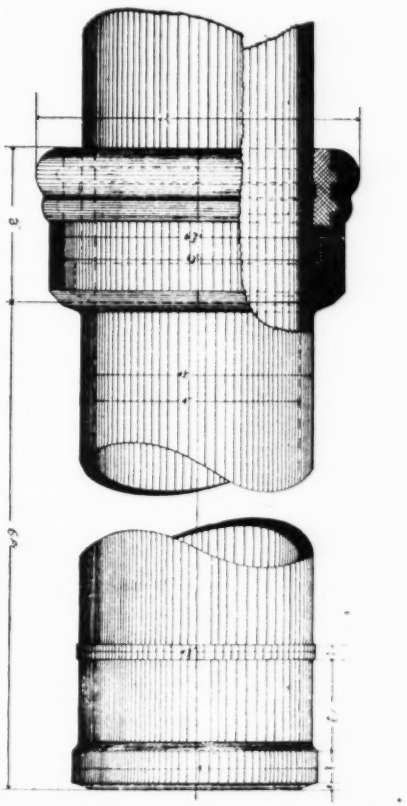
insist upon the installation of only the best that can be produced, therefore the plumbing inspector is the man who can demand what shall be installed and used.

The manufacturer and dealer has only one object in view, and that is to make profit, and we cannot blame them for this; it is their business. Your business is to protect the buyer. Exercise that power to the fullest extent and the public will most heartily endorse your actions.

I herewith submit some prints relating to the proposed standardization of the extra heavy cast-iron soil pipe fittings, and also some rules and regulations relating to same.

RULES AND REGULATIONS
For
EXTRA HEAVY CAST-IRON SOIL PIPE AND FITTINGS.

1. The wall thickness of all extra heavy cast-iron soil pipe and fittings must not be less than ¼ inch.

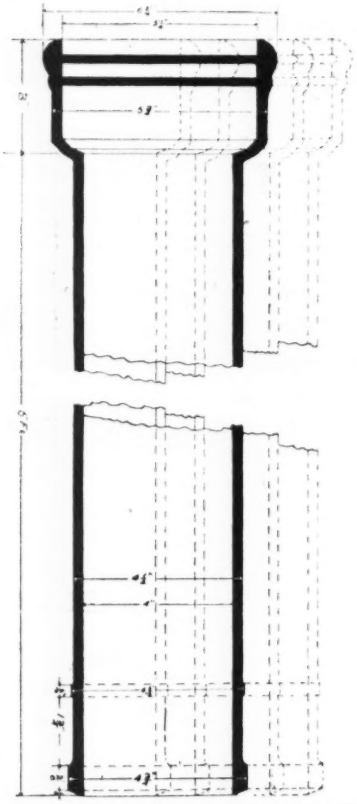


Regulation Soil Pipe, Extra Heavy, 4 inch.

2. The wall thickness at bead of hub on extra heavy cast-iron soil pipe and fittings must **not be less** than 7/16 inch.
3. The wall thickness at the bead of spigot end of extra heavy cast-iron pipe and fittings must **not be more** than ½ inch, to make all extra heavy pipe and fittings of the different manufacturers interchangeable.
4. The inside diameter of extra heavy cast-iron pipe and fittings must not be of less diameter than the size given.
5. Extra heavy cast-iron pipe and fittings of uneven wall thickness will be rejected, if the wall thickness at any point or place will show over 1/32 inch less than ¼ inch, or if the pipe or fitting

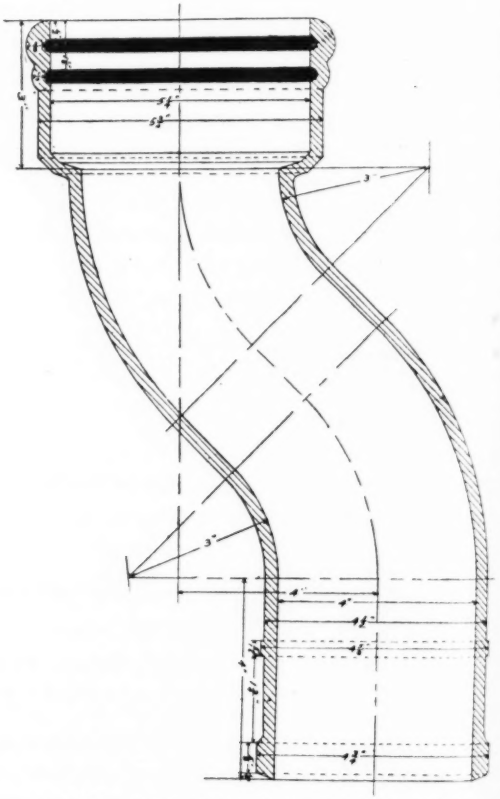
weighs less than 5 per cent. of the weight cast on said pipe or fitting.

6. The total weight, including hub, of each extra heavy pipe or fitting, must be cast on each pipe and on each fitting with figures not less than ¼ inch in size, and must be plain and distinct.



Regulation Soil Pipe, Extra Heavy, 2 to 6 inches.

7. The makers' name, or initials of name or trade mark name, must be cast on each pipe and on each fitting, with letters of not less than ½-inch size.
8. The spigot end of all extra heavy bends and other fittings must be a straight pipe of not less than 4 inches in length, to allow caulking room.
9. The spigot end of all pipe and fittings must have a band ⅛ inch high x ¼ inch wide, or rings cast in same to engage the lead in the joint.
10. The branches of all Y's, TY's, or sanitary T's and Crosses must enter the main stem at an angle of 45 degrees.
11. The branches of the TY's or sanitary T's and Crosses must be so constructed that the wall of the main stem will cover one-half of the diameter or area of the branch, on a line with the centre of the hub of the branch.
12. The radii of quarter bends (90 degree elbows) must not be less than three inches at inner pipe wall, making the radius to centre of fitting on two-inch bends 4 inches; on three-inch 4½ inches; on four-inch 5 inches; on five-inch 5½ inches; and on six-inch 6 inches.
13. The hubs on extra heavy pipe and extra heavy fittings must have an inside diameter of not less than 1¼ inches greater than the bore of the pipe, making the inside diameter of hub for 2-inch pipe 3¼ inches; for 3-inch 4¼ inches; for 4-inch 5¼ inches; for 5-inch 6¼ inches; and for 6-inch 7¼ inches.
14. All hubs for extra heavy pipe and extra heavy fittings must be three inches long on the outside, or three inches deep from the end of hub to the point or shoulder upon which the spigot end will rest, and each hub must have two grooves cast in the inner wall of the hub not less than ¼ inch from the outside end of the hub; each groove must not be less than



Regulation Offset, Extra Heavy, 4 inch by 4 inch.

3/16 inches wide and not less than 3/16 inch deep, and must have not less than ⅜-inch space between each groove, and the grooves must be located so that both grooves engage the lead of the joint.

15. The building lengths of extra heavy soil pipe must not be less than five feet per length of pipe.
16. The total length of each length of extra heavy

pipe, including hub, must not be less than 5 feet, 3 inches.

17. In running traps the outlet or spigot end must be two inches below the horizontal line of the inlet or bell end.
18. Building lengths for increasers and reducers must not be less than 9 inches for the two-inch, three-inch, and four-inch sizes, and not less than 12 inches for the five-inch and six-inch sizes.
19. All offsets must be 45 degree angle (⅛ bend offsets) and must not be longer than to offset 12 inches from centre to centre; longer offset castings, if cast in one piece, will not be permitted.
20. Weight of each length of pipe, including hub, shall be as follows: 2-inch 30 pounds; 3-inch 45 pounds; 4-inch 60 pounds; 5-inch 75 pounds; 6-inch 90 pounds.
21. After July 1, 1909, no other extra heavy cast-iron soil pipe than described in the above rules and regulations will be permitted to be installed in house plumbing.
22. After January 1, 1910, no other extra heavy cast-iron soil pipe fittings than described in the above rules and regulations will be permitted to be installed in house plumbing.

In addition, we suggest and recommend for manufacturers to adopt the following sizes, to make fittings of all manufacturers interchangeable:

(a) Building lengths of Y's San. T's, or Ty's.....	2″	3″	4″	5″	6″
	10″	11″	12″	13½″	15″
(b) Building lengths of ¼ bends—					
From hub to centre.....4″	4½″	5″	5½″	6″	
From centre to spigot end.....8″	8½″	9″	9½″	10″	
(c) Building lengths of ⅛ bends—					
From hub to centre 1	1/2 ″	1 3/4 ″	1 15/16″	2 1/8 ″	2 5/16″
From centre to spigot end ...5	17/32″	5 23/32″	5 29/32″	6 3/32″	6 9/32″
(d) Building lengths of 1/16 bends—					
From hub to centre	13/16″	7/8 ″	31/32″	1 3/32″	1 3/16″
From centre to spigot end ...4	25/32″	4 7/8 ″	4 31/32″	5 1/16″	5 5/32″

Not His Object.

"Do you think you can absolutely prove your theory?" asked the admiring friend.

"I don't wish to," answered the eminent astronomer; "as soon as it is absolutely proved there will be a falling off in the demand for magazine articles on the subject."—Washington Star.

Getting Ready for It.

"And how is that pretty young widow?" asked Mrs. Browne. "Is she reconciled to her loss yet?"

"No," replied Mrs. Malaprop, "she ain't exactly re-conciled yet, but they do say she has the man picked out."—The Catholic Standard and Times.

Both Punished.

"Pop!"

"Yes, my son."

"In olden times a woman who was a common scold was punished, wasn't she?"

"Yes, my son. So was the man she married."—Yonkers Statesman.

Report of Committee on Relative Corrosion of Wrought Iron and Steel Pipes*

Your committee appointed to continue tests and secure data on the relative corrosion of wrought iron and steel pipes hereby reports progress.

It is endeavoring to accumulate facts obtained by tests made under working conditions. It is not looking for opinions, because it has reason to believe that very few engineers have had an opportunity to give sufficiently close attention to this subject to correctly identify wrought iron from soft steel pipes while pursuing their regular vocation. This being so, your committee feels that it should make tests itself, or have them done under its own supervision, and it is along this line that we are now endeavoring to collect data.

Up to the present time we can only report definitely on one test as follows:

This test consisted of six pieces of two-inch strictly wrought iron pipes and six pieces of two-inch steel pipes each about 9 7/16 inches long over all measurements including the threads, and joined together with wrought iron couplings in the ordinary manner, as shown in Fig. 1. These samples were secured from different sources which we will, for convenience, represent by the letters A, B, C, and D, and were tested out and identified. They were screwed together and inserted on the same line and under exactly the same conditions as existed in the test which was illustrated and described in the paper by T. N. Thomson at the 1908 Annual Meeting of this Society. The test we report now was made, in a measure, as a check on the test previously referred to in the said 1908 paper.

We consider it valuable at this time, inasmuch as it shows the behavior of modern wrought iron and steel pipes when subjected to internal corrosion during actual working service, each sample of pipe in the test being subject to exactly the same working conditions and the same corrosive influences as the others.

The samples were inserted in a hot-water circulating line, as shown in Fig. 2, being located near the ceiling of the engine room of the Instruction Building of the International Correspondence Schools in Scranton, Pa. The samples were inserted November 18, 1907, and were used as part of a hot-water circulating and distributing system that

*Read at the fifteenth annual meeting of the American Society of Heating and Ventilating Engineers, held in New York City, January 19-21, 1909.

conveys hot water from a boiler *a* to 24 combination faucets at press-room sinks continuously till November 30, 1908, when they were removed because of a leaky seam which developed in the sample marked No. 8. The water was heated by a brass steam coil in *a*, and flowed through the samples each weighed about 40⅜ oz. for the same length. This means that C's pipe had originally an average thickness greater than that of A's pipe, yet the thicker pipe is considerably less durable than the thinner pipe, as can easily be seen from the samples which are open here for your inspection.

CORROSION TEST NO 2.

MADE IN A HOT WATER PIPE LINE IN THE INTERNATIONAL TEXTBOOK COMPANY NEW PRINTERY.

Pipes put in service, November 18, 1907. Pipes removed, November 30, 1908.

BOILER END.	1 Steel. A.	2 Iron. B.	3 Steel. A.	4 Iron. B.	5 Steel. A.	6 Iron. B.	7 Steel. C.	8 Iron. D.	9 Steel. C.	10 Iron. D.	11 Steel. C.	12 Iron. D.
Length in inches end to end of thread	9 7/16	9 7/16	9 7/16	9 7/16	9 7/16	9 7/16	9 7/16	9 7/16	9 1/2	9 7/16	9 1/16	9 7/16
Weight in ounces when first put in without couplings	38½	41	38½	41	38⅜	41	40⅛	39⅛	41⅛	41⅛	41⅜	41
Weight without couplings in ounces when pipes are taken out and rust removed	31⅛	35½	32½	34⅜	32½	34⅛	35⅛	32⅞	34½	35⅛	35½	32
Weight in ounces lost by corrosion	6⅜	5½	6	6⅛	6½	6⅛	5⅛	6⅛	6⅛	6⅛	6½	9
Per cent. of weight lost by corrosion	17.9−	14+	15.6−	15.2+	16.8−	16.2−	13+	17.4−	16.6+	15.1+	15.6−	22−
Thickness of material under deepest pits	1 T. .1264 .0984 .0965 .0943 .0890	1 B. .072 .0816 .0830 .0830 .0700	2 T. .0750 .0842 .0837 .0957 .0930	2 B. .0862 .0966 .0900 .0833 .1042	3 T. .0833 .0875 .0874 .0850 .0953	3 B. .0906 .0901 .0940 .0887 .0841	4 T. .0937 .1030 .0890 .0812 .0809	4 B. .0820 .0992 .1070 .1015 .0870	5 T. .0935 .0935 .0935 .1000 .0944	5 B. .0983 .0857 .0757 .0970 .0825	6 T. .1117 .1057 .0983 .1164 .1017	6 B. .1225 .1150 .1055 .1047 .1160	7 T. .0490 .0633 .0590 .0767 .0534	7 B. .0851 .0840 .0722 .0766 .0850	8 S. .0683 .0827 .0598 .1078 .0789	8 S. .1000 .0839 .0930 .1064 .0999	9 T. .0752 .0670 .0520 .0840 .0890	9 B. .0540 .0638 .0620 .0647 .0695	10 T. .0872 .0854 .1057 .1005 .1132	10 B. .0462 .0620 .0823 .0820 .0883	11 T. .0814 .0516 .0406 .0547 .0608	11 B. .0472 .0659 .0387 .0480 .0720	12 T. .0910 .0800 .0888 .0810 .0516	12 B. .0632 .0460 .0678 .0480 .0720
Least thickness		.0700	.0750		.0833		.0809			.0825	.0983		.0490		.0598		.0520			.0463		.0387		.0460

ples with a velocity that was never high enough to remove the rust as it formed inside the pipes. The temperature of the water was approximately 200 degrees F., and the pressure varied from about 80 pounds to 130 pounds per square inch.

The accompanying table shows the effect of the corrosion on the different samples.

In a similar manner it can be seen that the samples obtained from B are much more durable than the samples obtained from D, even although the original weights and thicknesses were practically the same in both.

It will be seen that the least durable piece of pipe in the test is C's No. 11, which has .0387 inch of

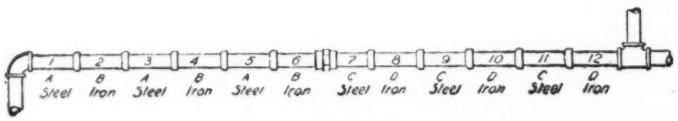


Fig. 1. Showing six pieces of two-inch wrought iron pipe and six pieces of two-inch steel pipe joined together in the ordinary manner.

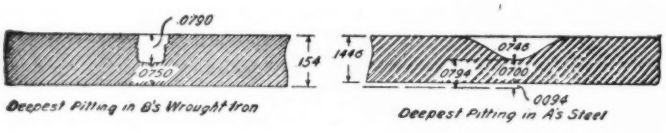


Fig. 3. Showing depths of fittings in poorest wrought iron and steel pipe samples.

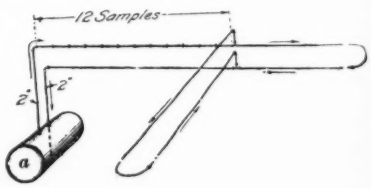


Fig. 2. Showing location of hot-water circulating line in which samples were inserted.

It will be observed that the steel pipe obtained from A is very much superior to the steel pipe obtained from C. The metal under the deepest pitting in the A samples is .0700 of an inch thick, while the metal under the deepest pitting in the C samples is .0387 of an inch thick. This means that C's pipe will corrode through much more rapidly than A's pipe. The table shows that the weight of each of A's samples was 38½ oz., while C's samples each weighed about 40⅜ oz. for the same length. This means that C's pipe had originally an average thickness greater than that of A's pipe, yet the thicker pipe is considerably less durable than the thinner pipe, as can easily be seen from the samples which are open here for your inspection.

thickness under its deepest pitting, while the second and third poorest pieces are D's pipe with a difference of .008 of an inch in favor of the latter.

The samples obtained from C and D can hardly be called first-class pipe when compared with the samples of A and B.

Assuming the samples from A and B to be good quality steel and iron pipe, respectively, we will now consider their relative lives. To accurately ob-

tain this we must find the depth of the deepest pitting and compare it with the original thickness of the pipe. Thus:

A's poorest steel sample is No. 1, and the deepest pitting is in the bottom half. B's poorest wrought iron sample is No. 2, and the deepest pitting is in the top half. Fig. 3 shows the depths of the pittings at these points.

The standard thickness of 2-inch full-weight pipe is .154 of an inch, but as the steel samples were 38½ oz. as against 41 oz. for the iron, the original thickness of the steel was practically

$$\frac{.154 \times 38.5}{41} = .1446 \text{ inch.}$$

The exact depth of the pitting in the wrought iron, therefore, is .154 — .0750 = .0790 inch, while the depth of the steel is .1446 — .0700 = .0746, showing that the actual depth of the deepest pitting in the poorest piece of A's steel pipe is not as bad as the actual depth of the deepest pit in the poorest piece of B's strictly wrought iron, the difference being .0790 — .0746 = .0044 of an inch in favor of the steel pipe. If we consider the fact that steel is about 2 per cent heavier than wrought iron, the difference will be in favor of the steel.

If A's steel samples had been originally as thick as B's iron samples, the metal under the deepest pitting would have been about 0.700 + .0094 = .0794 as against 0.750 for the iron.

This test checks up well with the aforesaid 1908 paper, and we believe demonstrates that modern steel pipe of good quality is, at least, as durable as modern strictly wrought iron pipe of good quality, and is very much superior to a poor quality of wrought iron in this class of work.

This test suggests that the durability of a pipe depends more upon the quality of the metal than upon its thickness.

In closing we desire to call special attention to the fact that we find it is not safe to accept reports regarding the corrosion of wrought iron and steel pipes without first identifying the materials, because so many engineers cannot ordinarily distinguish the difference between them.

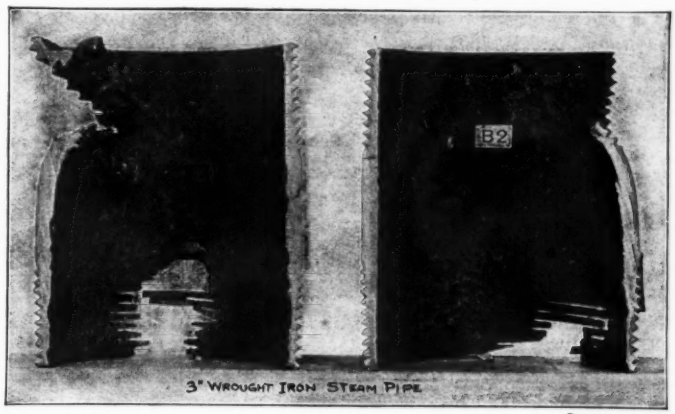


Fig. 4. Photograph of two 3-inch short nipples of wrought iron sawed in halves, showing defective parts.

We can quote a few instances to prove this statement, but the following we think is sufficient:

At our last annual meeting one of our members brought two 3-inch short nipples and presented them as examples of quick corrosion in steel pipe. They were believed to be steel nipples by some of the members, while others thought they were wrought iron, but nobody had a definite opinion. We were then requested to have them taken away and tested, which was done. We sawed each of the nipples in halves and had a photograph taken of each of the defective halves. They are shown in Fig. 4. We had these nipples tested in three ways by three entirely different people. A test by analysis made by an experienced metallurgical engineer showed the following composition:

	Sulphur.	Phosphorus.	Manganese.	Carbon.
B 1.....	.022	.229	trace	trace
B 1.....	.026	.251	trace	trace

The analyst's decision is that there is no question of this material being wrought iron.

A fracture test being applied showed without a doubt that the nipples are wrought iron, as you

can see by the broken pieces we lay before you for inspection.

The acid test was applied by an experienced structural engineer in accordance with the instructions published by pipe manufacturers, and his decision is that the nipples are both wrought iron.

So here we have a specific case where an expert heating engineer presented to our body two wrought iron samples under the impression that they were steel, and nobody present could prove him wrong.

This example is enough to teach us to be cautious in coming to conclusions regarding the relative corrosion of wrought iron and steel pipes.

Respectfully submitted, Thos. N. Thomson, Chairman, Thos. Barwick, F. N. Speller, Committee.

Learning the Craft—VI

By Phoenix

Written expressly for "Domestic Engineering." All rights reserved.

The Man Who Cuts Prices.

Why be a financial question mark, conducting your business with no more exactness than a guessing game?

Stop wearing your head merely for an ornament and **get some ideas under that hat.**

Use some "gumption." Why, I lost six hundred dollars on that court house job! Did you? Well, you **certainly are improving.**

There are hundreds in the business who do not realize exactly when, nor **how much they are losing.**

Therefore it is a sign of progress and also that there is some hope for your future, if you have found out that you **are losing,** and have ceased to hope that all was well.

Now, investigate this proposition thoroughly.

Go after it harder than you would a lazy journeyman, and you would **get him** all right.

This article tells how to cut out low bidding

Make an effort to find out **exactly where you stand.**

"Experience is a dear teacher," so be prepared for a costly lesson, but try to absorb it and get the worth of your money.

Not one in fifty engaged in contracting heating and plumbing jobs can tell **how much they make or lose on each job.**

This is one reason why prices are cut so freely.

"Ignorance is bliss," but **self interest** should prevent any man doing work when he is uncertain as to how he will come out on his bid, and whether or not he may have to "make good" on the contract at a loss.

It is up to you, Mr. Master, to **know how your business is running.**

Do not leave it any longer to guess work, the bookkeeper or any other person, but hand out to yourself the following line of treatment, and if you then are not cured, transfer your energies to some different line of business—**go sell peanuts.**

Do not wait for the sheriff's notice to be posted across the front door, but hustle around and locate all financial leaks, and the most numerous of these **will show up in your own estimates.**

Let Jones, if he so desires, sharpen up his pencil and cut prices.

Stay in the clear yourself. Do not expect the jobber to "slump the deal" for you to make good your blind bidding, nor howl at your journeymen to make

ROBERT B. CAVERLY, Inc.

Job _____ To be completed

	TIME				MATERIAL			
	ESTIMATE			COST	ESTIMATE			COST

Fig. 6.

better time in a vain effort to assist in pulling you out of the hole into which your own blindness or greed has thrown you.

Such a man is a piker and does not possess the nerve of a tin horn sport.

If you cannot secure the contract at a fair profit, enabling you to do honest work with reliable goods and to give your customer a guaranteed job, be man enough to lose the job right on the spot.

"Keep tab" on your business, so you can see at a glance how you stand on any particular job.

Use some such form as given below in Fig. 6, which is in daily use in one of the most successful shops in the United States. This shows in opposite columns the amount your estimate and what it actually cost, for every single item in any plumbing or heating job. You can then locate at once where the loss was in any job you have completed, and the amount at the bottom represents your estimate of the **net** cost and also in the other column **how the job panned out.**

Suppose you estimate that the net cost of a certain job would amount to $1,000, and when completed you find that you have paid out $1,300 to complete this same job. How many times are you going to get "stung" and pay $300 for the privilege of doing $1,000 worth of work?

The next time you estimate will you not be strongly tempted to **raise your bid?**

Are you going forever to continue to **hand out money that rightfully belongs to you** to other persons **merely for the glory of doing work?**

The **cost** that you estimated for this job was the net cost and **not the gross cost.**

Many a shop has gone "on the bum" because its master failed to comprehend the meaning of the words **"net cost."**

Net cost is the sum of money required to pay for the material, labor, freight, expressage, incidentals, etc., on any particular job.

This is what most shops call **cost** and is totally incorrect and if persistently figured will break the best man in the business in seven years, unless he is making a profit of 50 per cent on his contracts.

Gross cost is the sum of your total expenses.

This means net cost plus a proper percentage for fuel, lights, rent, interest on your investment, horse, wagon and driver and a dozen or more items, which **must be paid for by somebody.**

If you fail to allow for these items of expense, where will the money come from to meet these fixed charges?

Out of the profits?

But, suppose there are **no profits?**

Then, speaking figuratively, it is:

"A little more work for the undertaker,
Another little job for the casket maker."

Finis.

The experience of shops of different character in many parts of the country proves that it costs a man in the plumbing or heating business somewhere from 11 per cent to 20 per cent **to do business,** and that the **general average** is about 16 per cent.

This **constant expense** will, if not reckoned upon, eat up not only the profits, but the whole durn business.

This fact is proved by the number of failures by people who have gone under before they got next to **where the leak was.**

Let each master say: **I will do business, this year, at profit, and if I cannot, I will follow Horace Greeley's advice, and "Go West."**

Look here: You might better sell toy balloons and crackerjack, **making a profit,** than to cumber the path of progress and hold down honest men who are trying to raise the business to a higher level.

Cease being a shining failure.

The dazzling show room and plate glass front will not deceive anybody in the final round-up.

If you do not follow correct methods, sooner or later the fact will be borne upon you that, as a business man, **you are a rank failure,** and the evidence will appear in the form of the notice of your assignment for your creditors' benefit.

By persisting in the greedy, vicious, ignorant method of trying to put the other fellow out of business in knowingly taking work at a loss, or bidding on contracts **when you do not know where you are at,** you are taking a course the result of which will surely be visited upon your own head, **where it justly belongs.**

Be sure your sins will find you out.

"What did Hamlet mean by telling Horatio there were more things in heaven and earth than were dreamt of in his philosophy?"

"I don't know unless Hamlet had been doing business with the Danish secret service."

Burning Ashes

The contention that coal should be burned as completely as possible when it is first on the grates, and that the practice of refiring any of it is more often a source of greater loss than it is of economy, is well borne out by the following results of recent tests conducted by the Arthur D. Little Laboratory of Boston.

Just previous to these tests some of the grate bars had burned out very rapidly and allowed a considerable amount of coke and siftings of coal to be taken out in the ash conveyor.

The better part of the ash pile was returned to the coal conveyor and delivered to the overhead bins, where it was mixed with the coal and was being reburned at this time. At first thought it was considered to be the proper thing to do, but a sample of the coal and ashes being fed to the boiler indicated that there was a considerable increase in the percentage of ash in the fuel being fed and that the loss due to unburned coke invariably increased with this, so that instead of feeding to the stokers New River coal, which contains about 6 per cent ash, this material contained 11.74 per cent ash.

The ashes and refuse, being taken from the pits, contained nearly 40 per cent of combustible, which, based on the high percentage of ash in the coal being fed to the stokers, corresponds to a loss of 8.3 per cent. This is undoubtedly greater than was the original loss which it was attempted to recover.

From these analyses and the analysis of refuse being put into the coal bunker the chemical engineers calculated the amount of ashes being refired to be about 16 per cent of the coal.

"A Lady of the Hub." This is an excellent likeness of Miss McKenna, daughter of W. N. McKenna, a successful master plumber of Boston, Mass. The photograph was taken by our Mr. Winslow.

Domestic Engineering's Data Sheets

24

Feb. 20, 1909

These sheets may be had printed separately for preservation in a binder. Price 10 Cents

Published by Domestic Engineering, Chicago, 1909

FOR HEATING AND DRYING

Capacities, Speeds, and Horse Powers of Fans Delivering through Heater.

Contributed by Massachusetts Fan Company.

Air Velocity	Size of Fan	60	66	72	84	96	108	120
600	Cu. Ft.	11784	14256	16962	23094	30162	38172	47124
	R. P. M.	157	143	131	112	98	87	79
	H. P.	.561	.682	.807	1.09	1.43	1.81	2.23
700	Cu. Ft.	13748	16632	19789	26943	35189	44534	54978
	R. P. M.	183	166	153	131	114	102	92
	H. P.	.747	.900	1.07	1.46	2.00	2.39	2.98
800	Cu. Ft.	15712	19008	22616	30792	40216	50896	62832
	R. P. M.	209	190	175	150	131	116	105
	H. P.	1.12	1.36	1.63	2.20	3.04	3.64	4.50
900	Cu. Ft.	17676	21384	25443	34641	45243	57258	70686
	R. P. M.	236	214	196	168	147	131	118
	H. P.	1.51	1.83	2.18	2.96	3.87	4.89	6.04
1000	Cu. Ft.	19635	23758	28274	38485	50265	63617	78540
	R. P. M.	262	238	218	187	164	145	131
	H. P.	2.15	2.70	3.10	4.22	5.48	6.96	8.60
1200	Cu. Ft.	23568	28512	33924	46188	60324	76344	94248
	R. P. M.	314	286	262	224	196	175	157
	H. P.	3.20	3.85	4.61	6.27	8.20	10.3	12.6
1400	Cu. Ft.	27496	33264	39578	53886	70378	89068	109956
	R. P. M.	367	333	305	262	229	204	183
	H. P.	5.13	6.16	7.49	10.1	13.1	16.6	20.5
1600	Cu. Ft.	31424	38016	45232	61584	80432	101792	125664
	R. P. M.	419	381	349	299	262	233	209
	H. P.	7.76	9.22	11.2	15.2	19.9	25.2	31.1
1800	Cu. Ft.	35352	42768	50886	69282	90480	114416	141372
	R. P. M.	471	428	393	337	294	262	236
	H. P.	11.1	13.4	16.1	21.8	28.5	36.1	44.7
2000	Cu. Ft.	39280	47520	56540	76980	100540	127240	157080
	R. P. M.	524	476	436	374	327	291	262
	H. P.	13.8	16.3	19.8	26.9	35.1	44.5	54.9
2200	Cu. Ft.	43208	52272	62194	84678	110594	139964	172788
	R. P. M.	576	524	479	411	360	319	288
	H. P.	17.9	21.2	25.6	35.1	45.8	57.9	77.9
Area in Sq. Ft.....		19.64	23.76	28.27	38.49	50.27	63.62	78.54

NOTE—The above table gives the *actual* power to be delivered to the shaft of the fans while delivering the specified quantities of air through a regular "hot blast" heating coil.

Ohio Master Plumbers Meet at Springfield

Springfield, O.—Feb. 16, 1909. [Special].—The eighteenth annual convention of the Ohio State Association of Master Plumbers assembled here this morning at the Commercial Club rooms. Owing to the inclement weather many delegates were delayed by belated train arrivals, so that it was nearly 11 o'clock when **President D. H. Roberts called the convention to order** and introduced **President C. E. Ridenour** of the Springfield Association, who welcomed the delegates to his city and expressed great pleasure in having them here again after a lapse of fourteen years.

After concluding his speech he introduced the Hon. W. R. Burnett, Mayor of Springfield, who said, among other remarks, that he thought he had paid enough plumbers' bills to become at least an **honorary member of the association.** The mayor hoped that the visitors' stay in the city would be pleasant and that as business men the masters might return home better citizens and better business men. He also said that he regarded the plumbers' vocation as one of the most important of the trades and in behalf of the city extended a warm welcome to all.

President Roberts made a brief happily put reply in the course of which he stated that the masters always desired the upbuilding of sanitary laws and that the association's whole aim was for the good of the people.

Delegates in Attendance.

The roll was thereupon called and showed the following delegates attending the convention:

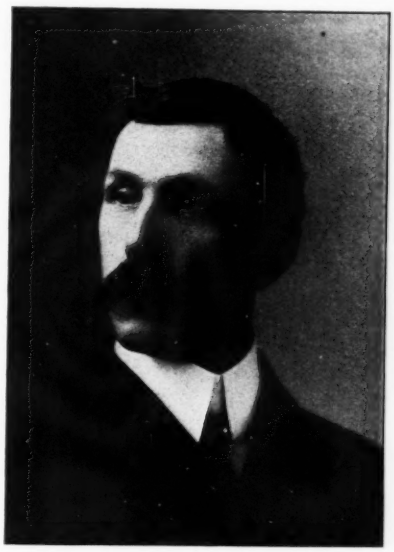
Akron: H. P. Cahill, H. Limbert, W. F. Kirn.
Bellaire: J. R. Fitton.
Bellefontaine: R. B. Davidson, Wm. Foulk, P. B. Rutledge.
Canton: J. E. Fitzgerald, J. H. Shorthill, A. C. Eynon, J. A. Mills.
Cincinnati: A. J. Murphy, Ray Hellendbrand, Edw. H. Morgan, J. J. Vogelphol, R. C. Luxton, Ben Lawmann, Edw. Frank, Edw. Kleine, Chas. Webber.
Cleveland: Joseph Winterbottern, D. A. Carroll, Louis Rumage, Frank Hildenbrand, H. W. Eckhardt, Al. Schnitzer, T. P. McDermont, C. C. Keller, J. F. Drees, D. H. Roberts, Eb. Ellen, F. E. Manney, W. R. Fulbrecht, Richard Kohls, E. H. Benhoff.
Dayton: Patrick O'Leary, David Pickeral,. R. B Moodie, J. L. Riley, Wm. Haas.
Delaware: R. R. Hakes.
Elyria: J. H. Thompson.
Frankton: Chas. N. Miller.
Greenfield: D. A. Le Fevre.
Youngstown: H. F. Smith, Chas. W. Wilson, T. G. Beede.
Mansfield: Chas. Hoffman.
Marion: W. E. Fry.
Ravenna: S. Sorenson.
Toledo: W. E. Girkens, Thos. Kewley.
Springfield: James Krumholtz, W. D. Fallrath, W. J. Romer, Chas. Ridenour.
Urbana: D. J. Sweeney.

Committees Appointed.

Various committees were then appointed after which the **Secretary submitted his report.**

A letter was read from President W. H. Halsey, of the National Association, expressing his regrets over his inability to be present, and he appointed **R. B. Moodie to represent the National Association in the convention.**

A communication was also read from Mrs. Charles Homan expressing her appreciation of the sympathy rendered her by the association at the time of the demise of her husband, the late Chas. Homan, of Cincinnati.



EB ELLEN, OF CLEVELAND.
Re-elected Secretary-Treasurer of the Ohio State Association of Master Plumbers.

The convention at this point adjourned until 2:15, p. m.

Tuesday Afternoon Session.

Vice-President Riley occupied the chair.

The resolutions upon the death of Chas. Homan were read, accepted and ordered spread upon the minutes, and it was also ordered that a copy of the resolutions be sent to the family.

The reports of the committees on apprentices, essays, and the national convention at Boston were read and accepted.

The report upon House Bill 64 (Schlemmer) that the Ohio State Master Plumbers' Association should endorse the bill was approved and accepted. A committee of four was appointed by the President to meet a like committee of journeymen and draft a set of rules to govern the state board of plumbing examiners.

The convention adjourned at 5:30 p. m., until 9 a. m., Wednesday.

Wednesday Morning.

The convention was called to order at 9:45 a. m. by President Roberts.

The reports of the auditing and resolutions committees were read and accepted.

It was moved, seconded and carried that the National Convention of Master Plumbers in 1909 be held **not west** of the Rocky Mountains.

It was resolved that an amendment be made to the national constitution that the National convention meet every two years only.

Moved and carried that the expenses of the President and Vice-President only, to the National Convention in 1909, be paid by the state association.

The convention adjourned at 10:45 to meet at 2 p. m.

W. E. GIRKINS, OF TOLEDO, O.
Director of the Ohio State Association of Master Plumbers.

Wednesday Afternoon.

The convention assembled at 2 p. m. and went into executive session during which the President's report was read. The delegates proceeded to elect officers for the next year.

Election of Officers.

President, **J. L. Riley,** Dayton.

Vice-President, **R. D. Desormoux,** Springfield.

Secretary and Treasurer, **Eb. Ellen,** Cleveland.

National State Vice-President, **D. H. Roberts,** Cleveland.

Delegates at large, **Chas. Hoffman,** Mansfield, **J. H. Thompson,** Elyria. Alternates, **Louis Rumage,** Cleveland, **Harry Smith,** Warren.

Board of Directors, J. L. Riley, Eb. Ellen, D. H. Roberts, R. D. Desormoux, W. E. Girkins, Al. Eynon, E. H. Morgan.

At the conclusion of this session the convention adjourned, a vote of thanks being extended to the Springfield Association for its royal entertainment, and also to the retiring officers, the president and the trade papers.

Entertainments.

Tuesday afternoon at two o'clock the visiting ladies took special cars and visited the I. O. O. F. and K. of P. homes.

In the evening there was a band concert at the Arcade hotel from 7 to 9 o'clock, followed by a theater party for the ladies and visiting members at the New Sun theater.

On Wednesday morning the ladies were treated to a shopping tour among the busy and thronging emporiums which add to Springfield's attractions.

In the afternoon a car was taken at Esplanade and a visit was enjoyed at the Ohio Masonic home.

Wednesday evening brought forth the crowning feature of the entertainments in the shape of a **ball** at the G. A. R. hall **in honor of the Ohio Master Plumbers and their ladies.** Euchre was also indulged in and a delightful evening passed away.

Great credit is due the various committees for their efforts to entertain the visitors. The following named gentlemen constituted the arrangement committee: George Haucke, R. H. Desormoux and Chas. Baxter. The reception committee consisted of Chas. Ridenour, J. E. Powers, W. S. Pifer, Chas. Stewart, Bernard Higgins, W. D. Follrath, James Krumholtz, W. G. Romer and Andrew Clark.

Convention Notes.

J. H. McCormick, of the **H. Mueller Manufacturing Co.,** of Decatur, Ill., presented the delegates with some very handsome receptacles for their "long green."

The Novelty Iron Co., of Canton, O., was represented by H. E. Sherlock, C. N. Sterner, L. A. Girvin and C. A. Ymkey. These gentlemen distributed some very handsome pocket knives.

The Welsbach Co., of Gloucester, N. J., was represented by a very genial gentleman in the person of H. J. Beardmore.

The Humphrey Co., of Kalamazoo, Mich., had an exhibit of its automatic water heaters in charge of its district sales manager, W. P. Fairbairn, of Columbus, O.

The Auto Meter Manufacturing Co., of Dayton, O., gave a novel exhibit of its flushing valves.

The Eagle White Lead Co., of Cincinnati, was represented by W. A. Woodmansee who presented his friends with an emblem of his concern.

The Apex Manufacturing Co., of Cleveland, O., had an interesting exhibit of its patent bath supply pipes and bath cocks, in charge of Wm. G. Stewart.

Sanitary Manufacturing Co., of Hamilton, O., was represented by Julian G. Smith and Russell Smith who exhibited the company's positive automatic seat action closets.

M. R. Emrich of the **Central Brass Co.,** of Cleveland, was very much in evidence.

James P. Shroop, veteran boiler salesman for the **H. B. Smith Co.** of Westfield, Mass., favored the convention with his presence.

C. C. Johnston of the **Herendeen Manufacturing Co.,** of Geneva, N. Y., a familiar figure at conventions, was present.

Lee Dinkel represented the **Glouber Brass Manufacturing Co.,** of Cleveland.

The **Eureka Wiping Cloth Co.**, of Kenton, O., was represented by Geo. H. Wagner.

Otto Hahn, of the **Louis Lipp Co.**, Cincinnati, was present and greeted his many old friends.

Vaile & Kimes of Dayton, O., had an interesting exhibit of their water motors in charge of their ever gallant Adam Cole who presented the ladies with carnations.

The exhibit of the **Peerless Selling Co.**, of Evansville, Ind., was one of the principal features of the convention. H. F. Weaver, secretary and manager, Harry Snow, Harry Armstrong and Herbert Swan kept open house exhibiting their high grade combinations and serving refreshments. Snow and Swan with their mirth provoking bear dance entertained the delegates with a regular matinee and several evening performances.

WEST VIRGINIA MASTER PLUMBERS MEET AT CLARKSBURG.

Clarksburg, W. Va., February 16. [Special.]—The West Virginia State Master Plumbers' Association held its seventh annual convention here this morning at about 10:30 o'clock in the assembly room of the Waldo hotel.

President C. O. Newlon, of Grafton, was in the chair, and **Secretary E. F. Clark,** also of Grafton, after the meeting had been called to order, read the minutes of the last previous meeting which was held in Grafton on March 10, 1908.

During the remainder of the morning session the auditing, legislative and credential committees were appointed, and instructed to be ready to report immediately after the beginning of the afternoon session. Then followed a discussion, in a general way, of business and trade conditions throughout the state. **Everything considered these were unanimously reported as being very favorable to a year of prosperous business.** At about eleven o'clock adjournment was taken until two o'clock in the afternoon.

Election of Officers.

The afternoon session was called to order at the appointed time, and the reports of the various committees were received.

The officers for the ensuing year were thereafter elected as follows:

President, **Frank C. Welch,** of Clarksburg.

Secretary and Treasurer, **A. L. Roberts,** of Clarksburg.

First Vice-President, **C. E. Mumford,** of Fairmont.

Second Vice-President, **L. W. Joseph,** of Morgantown.

National Vice-President, **E. A. Jackson,** of Grafton.

Delegates to the national convention, **E. F. Clark** and **L. W. Joseph.**

After this the convention went into executive session behind closed doors, with everyone but the regularly appointed delegates excluded.

Following is a list of the attending delegates: W. A. Wiedebusch, C. E. Mumford and B. Layman, of Fairmont; J. A. Barthlow, E. C. Wiedebusch, L. W. Joseph and A. M. Holland, of Morgantown; E. A. Jackson, C. O. Newlon and E. F. Clark, of Grafton; Robert W. Kyle and J. C. Mansbarger, of Wheeling; L. M. Hawkins, of Mannington; A. L. Roberts, F. C. Welch and H. S. McCune, of Clarksburg.

The following visiting delegates from Pennsylvania were also present: H. L. Burd, William R. Miller and C. L. Titus, of Uniontown, and the Yough Plumbing Co., of Connellsville.

FLORIDA MASTER PLUMBERS MEET AT TAMPA.

Tampa, Fla.—February 10.—The Florida State Association of Master Plumbers held its annual convention today in the Eagles' Hall on Twiggs street in this city.

The meeting was called to order at ten o'clock by **President W. E. McAndrews,** of this city. In welcoming the delegates to the city of Tampa he made an eloquent word picture of its beauties and dwelt particularly on its hospitality and its commercial prestige among the cities of the State.

A. G. Johnson, of Jacksonville, made a fitting response for the delegates from other cities.

The entire business of the convention was transacted in one session which lasted about three hours.

The election of officers was the last matter to come before the convention and it resulted in the following choice:

President, **A. G. Johnson,** of Jacksonville.

Vice-President, **W. E. McAndrews,** of Tampa.

National State Vice-President, **S. G. Bouis,** Jacksonville.

Secretary, **W. F. Clarke,** Jacksonville.

Treasurer, **C. J. Godsey,** St. Petersburg.

Delegates to the National Convention: **W. J. Regar and Robert Joughin,** both of Tampa; **S. G. Bouis and A. G. Johnson,** both of Jacksonville.

Jacksonville was selected as the meeting place for the next annual convention.

After all the business had been concluded, the master plumbers enjoyed an elaborate lunch at the Morris restaurant, where the newly elected president, A. G. Johnson, was the principal speaker. In his speech he spoke in an optimistic vein with regard to plumbing conditions throughout the state, and declared the past year had been a good one for both master plumbers and those in their employ.

CONVENTION DATES.

February 22, 23, 24 and 25, 1909.—Third Congress of the **American School Hygiene Association,** at Chicago.

February 23 and 24, 1909.—Mid-year meeting of the **Board of Directors of the National Association of Master Plumbers,** at the Auditorium Annex in Chicago.

February 24, 1909.—Regular meeting of the Central Supply Association, at the Victoria hotel, corner Michigan avenue and Van Buren street, Chicago.

March 8 and 9, 1909—Annual convention of the Kansas State Association of Master Plumbers, at Kansas City, Kans. Headquarters at the Grand hotel.

March 9 and 10, 1909.—Annual convention of the **New York State Association of Master Plumbers** at Schenectady.

March 9-10, 1909.—Thirteenth annual convention of the **Indiana State Master Plumbers' Association** at Kokomo, Ind. Headquarters at the Francis Hotel.

May 5, 6 and 7, 1909.—Annual convention of the **Southern Supply and Machinery Dealers' Association,** at Chattanooga, Tenn. Headquarters at Hotel Patten.

May 18-19, 1909.—The fifteenth annual convention of the Pennsylvania State Association of Master Plumbers, at Wilkes-Barre.

Association News

Newark, N. J.—The annual banquet of the Master Plumbers' Association of this city was held on Thursday evening, February 18.

Chicago, Ill.—The Board of Directors of the **National Association of Master Plumbers** will hold its mid-year meeting at the Auditorium Annex in this city on Tuesday and Wednesday, February 23 and 24.

Cleveland, O.—The Master Plumbers' Association of this city at its meeting last week passed a resolution on account of the death of Charles Homan, of Cincinnati, which occurred recently as reported in "Domestic Engineering" at that time.

New London, Conn.—The Master Plumbers' Association of New London held its annual meeting in the rooms of the Builders exchange on State street on the evening of February 5. Reports for the year were submitted and after the business session a smoke talk was enjoyed and light refreshments were served. Officers for the ensuing year were elected as follows: President, Thomas P. Cleary; vice president, Maurice J. Downey; secretary, J. L. Woodworth; treasurer, John F. Murray. The organization is in a very flourishing condition and the annual reports were of a flattering nature.

Pittsburg, Pa.—The name of the Allegheny Master Plumbers Base Ball team, which has made such an enviable record during the past few years in local base ball circles, has been changed to the North Side Master Plumbers. The team met last week and reorganized for the coming season, and will play games every Saturday afternoon. This team is one of the strongest amateur teams in Allegheny county, and has defeated practically every team that it has met in the past few years. The old grounds at Island avenue and Brighton Road have again been secured for this year.

New York, N. Y.—At a meeting of the Association of Master Plumbers of New York on February 8, 1909, the following officers were elected for the ensuing year: President, J. J. Brown, Manhattan borough; first vice-president, W. M. Brown, Brooklyn borough; second vice-president, E. D. Clark, Richmond borough; treasurer, J. F. Rogers, Queens borough; financial secretary, S. H. Welch, Bronx borough; recording secretary, J. Smith, Manhattan borough; sergeant-at-arms, E. Belford, Brooklyn borough. The trustees are: E. Macdonald, Brooklyn borough; B. F. Donohoe, Manhattan borough; and G. M. O'Connor, Queens borough.

San Francisco, Cal.—The second annual banquet and installation of officers of the California Metal Trades Association was held here this week. The organization was formed to protect local manufacturers, and the object is to keep as much business on this coast as is possible. The officers elected to serve during the coming year were as follows: President, J. M. Robinson; first vice-president, Jos. J. Tynan; second vice-president, James W. Kerr; general secretary, Harry F. Davis. Among the addresses of the evening of special interest to the plumbing and supply trade were "Employer and Employe," E. E. Baker, Oakland; "Proposed Fire Protection System for San Francisco," Assistant City Engineer Harris D. Connick, Board of Public Works, and "Our City Reconstructed," James W. Kerr.

New York, N. Y.—At a recent meeting of the Manhattan Branch Association of Master Plumbers, the following gentlemen were elected as delegates to the convention of the New York State Association of Master Plumbers, to be held in Schenectady, March 9th and 10th: James P. Knight, B. F. Donohoe, T. J. Cummins, T. S. Cochrane, Jr., James Smith, Morris Jarcho, David Deigan, T. A. Hill, Frank Reynolds, Philip Brady, Cuno Mueller, Isaac J. Brown, Chas. Murphy, John Smith, No. 1; Frank B. Lasette, A. E. Jackson, Geo. H. Creasy, T. J. Tuomey, John Renehan, Milton Schnaier, T. F. McCaul, Edward Hurley, Frank J. Fee, Hy. E. J. Schiffer, M. E. Keefe, A. E. MacLean, J. L. Murphy, William Young, No. 1, M. J. O'Brien, P. J. Commerford, P. J. Dickinson, August Hansen, Bernhard A. Buge, W. J. Buckley, J. T. McMahon, Chas. A. Walsh, A. S. Gaynor, James D. McEntee, E. J. Brady, J. J. Delany, Joseph D. Duffy, Jno. J. Falihee, Jno. J. Dowling and John G. Hanson.

Waterville, Me.—Thirty members of the newly organized Master Plumbers' Association of Maine were present at the meeting which was held in this city on January 28. Dinner was had at the Bay View House at noon, and at one o'clock the convention was called together in the hall of the A. O. U. W. The association is working to secure legislation for uniform laws governing plumbing in the state, and to do so a bill is being prepared that will soon be presented to the legislature for enactment. George L. Learned of Waterville is being assisted by John E. Nelson in drafting the bill, which will be patterned closely after a similar bill which is now in force in Massachusetts. The bill will make certain sanitary and plumbing rules compulsory. At present there are no laws governing such work and this is believed generally to be a detriment to health in many respects. The meeting was a busy one and the proposed new laws were discussed thoroughly. The meeting was adjourned about five o'clock.

Seattle, Wash.—A night trade school containing among its various other classes one in plumbing, steam fitting, gas fitting and the reading of blue prints has recently been organized by the Young Men's Christian Association in this city. This school will be conducted both days and evenings to give boys and young men a chance to secure practical education at the most convenient opportunity, and increase their earning power in the office, shop or factory. In the plumbing department a six months' course will be given each season extending through three years, and

it is intended to make this course thorough, practical, and efficient also embodying a knowledge of mathematics and drafting, with the hope that the training given, combined with sufficient practical every day work may assist in producing the highest type of workmen.

Wholesale Plumbing

Frederick T. Bailey & Company, of North Scituate, Mass., have fitted up a commodious plant and equipped it with up-to-date power machinery for the manufacture of plumbing specialties which was started a few months ago.

Humphrey Co., of Kalamazoo, Mich., announces that it has just opened a branch office and display room at 20 West Long street, Columbus, O., from which it will take care of its trade in Ohio and West Virginia. The office will be in charge of W. P. Fairbairn.

The Valveless Tank Company, with main office at 275 Water street, New York City, is opening a branch office in Chicago at 183 E. Lake street, which will be under the charge of Geo. W. Tipple, formerly with Whitney & Ford, of Chicago. Mr. Tipple hopes to have a full line of goods on display the latter part of the month.

The McCloskey Water Closet Connection Company has been organized with offices at 317 Eleventh street, Brooklyn, N. Y., to manufacture a new closet waste connection. The firm is composed of George M. McCloskey, who has been connected with the building department for a number of years and Joseph Doyle, a master plumber.

The Cameron Schroth Cameron Company, of 189-193 Michigan street, Chicago, has announced that it has secured the services of D. L. Hanson, who has been known to the trade for many years. Mr. Hanson will act as manager of the new company's plumbing department, in which a full line of sanitary fixtures and roughing-in material is carried.

Union Sanitary Mfg. Co. is the style of a new corporation which purchased the plant of the McElwaine-Richards Company, at Noblesville, Ind., at the recent auction. The new company will continue the manufacture of plumbers' enameled ware. C. E. Gates is second vice-president and general manager, and E. V. Brigham is secretary-treasurer of the new concern.

The J. M. Kohler Sons Co., of Sheboygan, Wis., has opened an eastern office and show room on West 42nd street, Bryant park Arcade building, New York City, which will be in charge of Wm. H. Barth as manager. The office is now open and all eastern mail intended for the company can hereafter be addressed to J. M. Kohler Sons Co., Bryant Park Arcade, New York. It is the intention of the company, for the greater convenience of the trade, to carry a stock of its porcelain enameled sanitary ware in New York City.

The Compound Injector & Specialty Company, of Chicago, Ill., has been incorporated with a capital of $25,000 to continue the manufacture of plumbing and sewerage specialties heretofore carried on by an organization of that name. The incorporators are George J. Dehn, M. L. Dehn, A. N. Wagner and C. E. Nelson. The incorporators have not yet perfected their organization but it is definitely settled that George J. Dehn will head the new company as president and general manager. Mr. Dehn founded the business about twelve years ago and he was its sole owner until 1907 when the company was organized under its present name. Mr. Dehn has had twenty-five years' experience in the plumbing and heating trade and he is the inventor of the specialties manufactured by his company.

On the way to our Colonial Possessions. A tip on the rapidly growing Spanish-American trade of the United States. This picture shows a three and one-half ton load of Plumbers' Brass Goods, manufactured by the McRae & Roberts Company, of Detroit, Mich., ready for shipment to Manila, P. I.

Climax Sanitary Company, of 334-340 Guoin street, Detroit, Mich., held its annual meeting last week and elected the following officers: Wm. Sherwood, president; Clayton A. Spalding, vice-president; Alex. L. Waltensperger, treasurer; Wm. C. Sherwood, assistant treasurer; Fred A. Schossow, secretary; Chas. Schossow, general manager. Wm. Sherwood, Fred A. and Chas. Schossow were for a number of years connected with the Buick & Sherwood Mfg. Co., and they are among the oldest in the plumbers' woodwork business today.

The George H. Tay Company, of San Francisco, Cal., has disposed of its business at Los Angeles, Cal., to the Tay Company, a new corporation which is an entirely separate concern from the San Francisco house of a similar name. The officers of the new company are: Carl Parker, president; Walter Babson, secretary and treasurer; Francis J. Baker, first vice-president and Edward H. Kinney, second vice-president. The management of the new concern is in the hands of Mr. Parker, an experienced man in this line, and who was for many years with U. S. Water & Steam Supply Co., of Kansas City, and later manager of the A. A. Busch Company of Los Angeles. Mr. Babson, who will fill the position of assistant manager, also is well informed on local conditions having formerly been connected with the H. R. Boynton Com-

pany, of Los Angeles, and before that with Crane Company, of San Francisco.

EASTERN SUPPLY ASSOCIATION MEETS IN NEW YORK CITY.

The regular meeting of the Eastern Supply Association was held in New York City on Wednesday, February 17. The meeting was called about 2 P. M. in the College room of the Hotel Astor, and the members weighed and passed upon many matters of importance and interest to the trade for more than three hours.

The Committee on Weights and Capacities reported progress.

The meeting was well attended and the Astor lobby was taxed to its capacity before and after.

The following is a list of those in attendance, together with the names of the firms they represented:

Thomas F. Cushing, of Thomas F. Cushing Co., New York.

Sam Lederman, of New York.

J. F. Conran, of Standard Sanitary Mfg. Co., Pittsburgh.

W. R. Stockwell, of Lord & Burnham Co., Irvington, N. Y.

Edward Smolka, of Edward Smolka & Co., New York.

Franz Neilson and James R. Strong, of The Credit Association of Building Trades of New York.

J. P. Donohue and S. Watts Bowker, of Central Foundry Co., New York.

Thos. H. Hutchinson, of The Cahill Iron Works, Chattanooga, Tenn.

F. A. Renner, of The Burr Manufacturing & Supply Co., Brooklyn, N. Y.

John A. Campbell, William J. Bapst, E. S. Aitkin and R. M. Fielder, of Trenton Potteries Co., Trenton, N. J.

F. G. Hoffman, of Thomas Maddock's Sons Co., Trenton, N. J.

Thomas J. Lee, Jr., Orange Supply Co., East Orange, N. J.

G. E. Keenen, of Bayonne Supply Co., Bayonne, N. J.

L. S. Rothwell, of American Pin Co., Waterbury, Conn.

J. Chas. Eichman, of J. C. Eichman Manufacturing Co., Baltimore, Md.

Carl Willms, Jr., of Willms' Sanitary Works, Baltimore, Md.

Arnold Behrer, Jr., of Arnold Behrer & Sons, New York.

A. H. Warner, of E. Stebbins Mfg. Co., Springfield, Mass.

O. W. Middaugh, of The R. C. McClure Co., Syracuse, N. Y.

John Weekes, of John Weekes & Son Co., Watertown, N. Y.

B. O. Tilden, of Colwell Lead Co., New York.

W. B. Maddock, of John Maddock & Sons, Trenton, N. J.

A. K. Raub, of Sheet Metal & Supply Co., Lancaster, Pa.

W. O. Warren, of Warren Balderston & Co., Trenton, N. J.

L. H. Birdeye, of Chas. Millar & Son Co., Utica, N. Y.

Chas. W. Frau, of John Simmons Co., New York.

Benjamin Mills, J. F. Mills and C. E. Witherspoon, of Abendroth Bros., New York.

A. E. Ford, of Ford & Kendy Co., Philadelphia, Pa.

Thos. B. Reeves, of Standard Plumbing Supply Co., Philadelphia, Pa.

H. B. Hallett, of the John Wood Manufacturing Co., Conshohocken, Pa.

Jno. W. Reid, of Reid Brass Mfg. Co., Brooklyn, N. Y.

John McClure Chase, of the McCambridge & Co., Philadelphia, Pa.

John A. Murray, New York.

John J. Delaney, of Coyne & Delaney Co., Brooklyn, N. Y.

B. Schultz, of B. Liss berger & Co., New York.

Martin Behrer, of Behrer & Co., New York.

C. D. Johnson, of Northern Brass Mfg. Co., Waukegan, Ill.

P. M. Beecher and C. F. Bennett, of Pierce, Butler & Pierce Mfg. Co., Syracuse, N. Y.

C. K. Sanborn, of Bay State Brass Co., New York.

J. H. Mueller, of Standard Tank & Seat Co., Camden, N. J.

G. D. Dorsey, New York.

F. A. Bucknam, of Nason Mfg. Co., New York.

W. S. Gibbs and F. H. Boardman, of Ronalds & Johnson Co., New York and Brooklyn, N. Y.

J. W. Dwyer, of Colwell Lead Co., New York.

J. P. Fell, C. W. Fell and Mr. Sage, of W. A. Case & Son Mfg. Co., Buffalo, N. Y.

Joseph F. Erun, of Wyoming Valley Supply & Mfg. Co., Wilkes Barre, Pa.

Harry E. Speakman, of Speakman Supply & Pipe Co., Wilmington, Del.

G. R. Adams, of Samuel Sloan & Co., Rochester, N. Y.

Milton L. Lissberger, Marks Lissberger & Son, Inc., Long Island City, N. Y.

Harry M. Smith, of Locke & Smith Co., New York.

Edward S. Hitchcock, of Hitchcock Supply Co., Springfield, Mass.

C. A. Jaynes, of Hoffman & Billings Mfg. Co., Milwaukee, Wis.

W. A. Mills, of Globe Foundry Co., New York.

A. Oatman and John B. Murphy, of Whitlock Coil Pipe Co., Hartford, Conn.

Frank W. Hubbard, of W. B. Hubbard & Sons Co., Boston, Mass.

J. W. Farrell, of Mitchell & Van Meter Co., Linfield, Pa.

F. W. Bamford, of John Maddocks Son Co., Trenton, N. J.

F. W. Herrmann, Jr., F. W. Herrmann, Guttenberg, N. J.

Rollin C. Wilson, of Trenton Brass & Machine Co., Trenton, N. J.

Raymond Deutsch, of The Monarch Brass Co., Cleveland, O.

Raymond W. Smith, R. Gray, Jr., Inc., Newark, N. J.

E. S. Thompson, of Haynes-Thompson Co., Philadelphia, Pa.

R. G. Williams and E. Raysor, of Stanley G. Flagg & Co., Philadelphia, Pa.

James P. McPhail, The Jas. Robertson Mfg. Co., Baltimore, Md.

W. S. Blake, W. S. Blake Co., Portland, Me.

Henry Stein, of New York.

Ernest P. Sands, of A. B. Sands & Son Co., New York.

C. A. Miller, of Miller, Hubbard Mfg. Co., Sturgis, Mich.

T. Markillie, of United Lead Co., New York.

T. C. Robert Morsfield, of R. W. Rud, Brooklyn, N. Y.

H. L. Gurley, of Mills & Gurley Co., New York.

L. O. Koven and William Schulmerich, of L. O. Koven & Brother, New York.

Wholesale Heating

A. J. Anderson & Company, of Louisville, Ky., has been incorporated with a capital stock of $60,000, to manufacture heating, lighting and refrigerating apparatus and pneumatic and hydraulic machinery. The incorporators are A. J. Anderson, of Cincinnati; Walter D. Krauth, of New Albany; C. P. Lichty, of Louisville.

O. P. Simler, secretary and general manager of the Union Radiator Co., Johnstown, Pa., has resigned his position with that company. Mr. Simler was among the organizers and promoters of the Union Radiator Co., and has been identified with the company since its organization was first broached. He expects to take over another radiator plant in the near future.

Kellogg-Mackay Company, of Chicago, Minneapolis, and Seattle, announces that it has secured the services of several additional salesmen, among them: J. W. Winterbottom, who will represent the company in northern Iowa; N. W. Taplin, lower Michigan; H. G. Scheel, western Illinois; J. W. Cline, southern Illinois and southern Indiana; and R. H. Morgan, who will cover Kansas and western Oklahoma in the company's interest.

August W. Dodge, secretary of the John T. Young Boiler Company, of Norwich, Conn., has completed the opening of that company's Boston office on the street floor of the Oliver building, Oliver and Milk streets, where a line of his company's products has been placed upon exhibition and attractive offices fitted up. F. A. Leavitt, formerly with the Fairbanks company has been installed as manager with C. F. Smith and two others as assistants who will cover the territory around Boston.

John D. Hibbard and Geo. F. Hughson, president, and vice-president and secretary, respectively, for many years, of the John Davis Company, of Chicago, have resigned from these positions. Mr. Hibbard has not yet decided where he will place his activity in the future, while Mr. Hughson has arranged to represent individually the A. M. Byers Company, pipe manufacturers, of Pittsburg, and he also will be at the head of a new corporation, the Hughson Steam Specialty Company, which will continue the manufacture of the steam traps and specialties heretofore made by the John Davis Company.

The seventh game of Indoor Base Ball of the Steam Trades Base Ball Association was played in the gymnasium of the New Illinois Athletic Club in Chicago on Tuesday evening, February 16. The first event was the supper in the spacious grand salon where the tempting viands vanished before the indoor athletes. The second event was a game of "That's Me" on a pool table with Stackhouse as collector. The grand finale was the game of Indoor Base Ball in the gymnasium, which proved a Waterloo for the Salesmen, the Contractors winning by a score of 30 to 19. O'Shea, an old-time outdoor base ball player pitched a good game for the Contractors. Helbach, Rice and Stock, all new players, filled the bases to the satisfaction of the winning team. Frank Douglass umpired. The association will play its next game Tuesday evening, March 2.

"For it's always fair weather, etc." Reading from left to right they are: D. W. Krebs, Indiana representative of the Kellogg-Mackay Company, of Chicago; Fred Hipskind, who is associated with his father in the plumbing and heating business at Wabash, Ind., under the firm name of Hipskind & Hipskind; and E. W. Payne, division sales manager of the Kellogg-Mackay Company, of Chicago. The photograph was taken in front of the up-to-date establishment of Hipskind & Hipskind, a firm which has installed plumbing and heating systems in many representative buildings in its section of Indiana.

Steam and Mill Supplies

The Consolidated Dust Removing Apparatus Company of San Francisco, Cal., has been incorporated with a capital stock of $25,000, by C. Johnson, C. Chisholm, P. W. Hall, J. E. Hayden and J. T. Peters.

The branch warehouse of the H. W. Johns-Manville Company, at 225 Clyborne street, Milwaukee, Wis., was destroyed by fire last Saturday, causing a loss of some $200,000. Six persons were killed and a number of others injured.

Hydrostatic Machinery Co., of Rochestter, N. Y., has been incorporated with a capital of $50,000, to manufacture plumbing and steam fitting supplies. The incorporators are Louis J. Ernst, Adolph M. Spiehler and Clarance Wheeler, of Rochester.

The Blue Grass Mill & Supply Company, of Lewisburg, W. Va., has been incorporated with a capital of $17,000. The incorporators are: G. S. Alderson and S. W. Deare, of Alderson; C. W. Dunbar, of Frankfort; J. M. Dunbar, of Spring Creek, and M. L. Dunbar, of Lewisburg.

Charles F. Aaron, president of the American Supply & Machinery Manufacturers' Association, states that while the executive committee of the Manufacturers' association will meet in Chattanooga at the time of the Southern dealers' meeting, and a large representation of its membership will doubtless be present, the annual convention of the organization will be held in Pittsburg, May 12, 13 and 14. These dates coincide exactly with the time selected by the National Supply & Machinery Dealers' Association for its next annual meeting to be held in Pittsburg, as told elsewhere in this column.

The National Supply and Machinery Dealers' Association will hold its next annual meeting in Pittsburg, Pa., at the Fort Pitt Hotel, on Wednesday, Thursday and Friday, May 12, 13 and 14, 1909. The meeting will be divided into six sessions: A joint session with the American Supply & Machinery Manufacturers' Association; one session devoted exclusively to the consideration of machinery matters, and four sessions devoted to subjects of interest to all our members. In addition to these, there will be several joint and separate sessions of the executive and conference committees of the two Associations. This will probably be the most important meeting held by this association since organization, and with proper interest on the part of its members, it is expected that it will be the most profitable in results. W. L. Rodgers, Pittsburg Gage & Supply Co., is chairman of the local committee on arrangements. This committee has in charge the banquet for Thursday evening, May 13th, and other entertainment features for visiting members and guests.

The Executive Committee of the Southern Supply and Machinery Dealers' Association held a meeting in New Orleans, La., on Thursday and Friday, February 4 and 5, at which it was unanimously decided to hold the next annual convention of the association at Chattanooga, Tenn., on Wednesday, Thursday and Friday, May 5, 6 and 7, 1909, with headquarters at the Hotel Patten. The executive committee expressed regret over its inability to accept the invitation of the National Supply & Machinery Dealers' Association to join it at its annual meeting in Pittsburg and extended an invitation to this association to have delegates present at the meeting in Chattanooga. A resolution was also passed extending an invitation to the American Supply and Machinery Manufacturers' Association to hold its annual meeting at the same time and place as the Southern Supply and Machinery Dealers' Association. The meeting in Chattanooga will be a very important one, as many matters of vital importance to the supply and machinery dealers of the South will come up for discussion. W. E. Mills, of the James Supply Company, Chattanooga, Tenn.; H. C. Clark of the Charlotte Supply Company, Birmingham, Ala., and John C. Doyle of the Nashville Machine Company, Nashville, Tenn., were appointed as an entertainment committee to confer with a similar committee from the American Supply and Machinery Manufacturers' Association to work out the details of the program. W. E. Mills of Chattanooga, Tenn., will be chairman of this committee.

Metal Market

New York Metal Market, February 16.

Copper, Prime Lake	$13.62½
Copper, Lake, Arsenical brands	13.37½
Copper, Electrolytic	13.37½
Antimony, Cookson's	8.00
Lead	4.02½
Spelter	4.90
Straits Tin	28.87½

Chicago Iron Market, February 18.

Southern, No. 2 Foundry	$17.35
Northern, No. 2 Foundry	17.00
Lake Superior Charcoal	19.50-20.00

February 18, 1909:

Foundry iron was the same price as the week previous
$2.00 less per ton than the year previous
Copper was ¼c less a lb. than the month previous
½c more a lb. than the year previous

New York, N. Y.—A conference, potentially important in view of the existing conditions in the steel industry, was held here Wednesday, February 17, between the heads of the various subsidary corporations in the United States Steel Corporation and Judge E. H. Gary, chairman of the corporation's directorate, and W. E. Corey, its president. It was understood that the situation, complicated by the reported extensive price cutting on the part of the independent producers, was thoroughly discussed. Nothing was given out as to the result of the conference, but it was intimated that a statement giving the steel corporation's position in the present circumstances might be issued shortly.

Personal

E. H. Croft, general manager of the Loew Manufacturing Co., Cleveland, O., was in New York City last week.

R. M. Starbuck, of R. M. Starbuck & Sons, Hartford, Conn., is spending a few weeks in the Sunny South on a pleasure trip.

Jos. E. Herrick, well known in New England wholesale plumbing trade circles, was recently elected a member of the Board of Health, of Beverly, Mass.

Francis J. Baker, president of the Geo. H. Tay Company, of San Francisco, is at present on his annual two-months' trip to the principal cities in the East.

John & Peter Fox of the plumbing and heating firm bearing their name at 480 East 183rd street, New York, returned to the city last week from a trip to the Bermuda Islands.

Frank L. Daly, Boston suburban salesman for the F. W. Webb Manufacturing Company, of Boston, enjoys the unique title of "Statesman-Salesman," since his election to the Massachusetts State Legislature last fall, from Ward 17, Boston. Frank is a popular chap among the boys in the trade and the fact that

he received the highest majority ever given a candidate in his precinct, indicates that his popularity extends well beyond it.

E. O. Hoskins, manager of the boiler department of Abendroth Bros., New York, visited the Boston office of the company last week. The company has added a Mr. Tierney to the force of its Boston branch, who has taken charge of its hot air furnace department.

B. Joseph O'Donnell, secretary of the Master Plumbers' Association of Syracuse, N. Y., and ex-president of the New York State Association of Master Plumbers, has the sympathy of his many friends in the trade on account of the death of his father, Bryan J. O'Donnell, which occurred on Wednesday, February 10, in his 75th year. Mr. O'Donnell was for many years the leading custom shoe maker in Syracuse and he left a large circle of friends in that city of which he had been a highly esteemed citizen for the last 53 years.

Public Comfort Stations

Columbus, O.—At a meeting of the Columbus Society of Architects held here last Saturday evening a committee was appointed to confer with the Public Health Committee of the Board of Trade in regard to building at least one Public Comfort Station in Columbus. Albert M. Allen, of Marriott & Allen, architects, Columbus, **read the article on Public Comfort Stations published in a recent issue of "Domestic Engineering"** and it was very much appreciated. Professor J. N. Bradford, Dean of the Architectural Department of Ohio State University, assisted by illustrating the article from lantern slides made from the pictures which appeared in the Public Comfort Station article.

Kansas City, Mo.—It has been proposed to establish a public comfort station costing $15,000 at Ninth and Main streets of this city. Six property holders brought suit for an injunction against the city restraining them from locating the public comfort station at that point. The case was decided by Judge James H. Slover of the Circuit Court, who denied the petition of the property owners. In deciding the case Judge Slover held that the city had the legal right to use the streets for all beneficial purposes which the public good may require. He said that, judging from the evidence submitted at the trial of the case, there is considerable doubt as to whether or not the property of the complaining property owners would be damaged by the building of the comfort station. If it should prove that the adjacent property were damaged by the building of the public comfort station, said Judge Slover, then the property owner would have his right of action at law against the city. In handing down his decision Judge Slover said: It is insisted by the property owners that the city has no power to use the streets for a public comfort station or for any other purpose that interferes with the free use of the streets by the general public. But Dillon in his work on municipal corporations says the power to regulate the use of city streets is not limited to a mere right-of-way, but it extends to all beneficial uses which the public good and convenience may from time to time require, and so it has been declared by the highest courts of this country. It has been held that the city may authorize the erection in the streets of telephone poles, telegraph, electric light or electric street railway poles, the construction of sewers, laying water pipes, the erection of hydrants, build reservoirs and cisterns, in the streets. Large powers are conferred upon the common council by the new charter, and I believe its provisions broad enough to authorize the building of the public comfort station at the place selected by the city for that purpose. It is also claimed by the plaintiffs that the erection of this comfort station will depreciate the value of the adjacent property. But in this case the evidence as to the effect upon the business interests and the value of the adjoining property by the building of the public comfort station is conflicting and uncertain. In a situation of this kind where it appears the damages will be slight or it is doubtful whether any damages would be allowed by a jury, the practice is to deny the injunction and leave the complaining party to his action at law against the offending corporation. The plaintiffs' contention must be held untenable and a temporary injunction is denied."

Spokane, Wash.—Aubrey Lee White, president of the city park commission and civic beauty exponent, has plans to establish twenty-seven playgrounds, one in the immediate vicinity of every public school in Spokane. In connection with these there will be shower baths and other modern features. The commission plans to expend $1,000,000 on playgrounds, parks and a civic center, with assembly halls and branch libraries.

BLANK FOR

Report of an Award of Heating or Plumbing Contract

(Cut out, fill in and mail promptly)

DOMESTIC ENGINEERING
Chicago

We have been awarded the contract for

_____
plumbing or heating

the _____, the
kind of building

amount of the contract being $_____

Owner's name _____

Address _____

Architect's name _____

Address _____

General Contractor's name _____

Address _____

Our own name _____

Address _____

Contracts Awarded

Lawrence, Mass.—The contract for installing heating apparatus in the waiting room of the Boston & Northern street railway company has been placed with Bride, Grimes & Co.

Los Angeles, Cal.—The Phillips Heating, Ventilating and Manufacturing Company of this city have secured the heating contract for the residence being erected upon Mr. Huntington's Los Robles ranch.

Pasadena, Cal.—The firm of E. O. Nay & Company has been awarded the plumbing contract on the residence being erected for Mr. Huntington at his Los Robles ranch between Los Angeles and Pasadena. The consideration is $10,000.

Saco, Me.—Herbert Smith has been awarded the contract for the installation of a heating system in Albert Cole's residence. The contract calls for a complete and up-to-date system including twelve radiators. Mr. Smith has also secured a contract for a similar job at Captain J. F. Warren's residence in Bonnyeagle.

Worcester, Mass.—Recent plumbing contracts placed here are as follows: C. A. Middlemas, tenement house at 18 Russell street, owned by George Hunt. Thomas J. McManus, tenement house at 29 Dover street, owned by N. P. Fortier; tenement house at 72 Freeland street, owned by John McDermott. John J. Sexton tenement house, 2 Lodi street, owned by A. J. Gaudette. Field & Fielder Co., factory on Tainter street, owned by Crompton & Knowles.

The Middle States

Dayton, O.—Danner & O'Leary will move about February from their present location at 214 North Main street to new quarters being prepared for them in the Music Hall property at Main and First streets.

Rock Island, Ill.—Terry F. Burk and Joseph J. Gross have formed a partnership and will conduct a general plumbing and heating business. The firm will be known as the Burk Heating and Plumbing Company, and located at 2200 Sixth avenue.

Chicago, Ill.—Chicago Contracting and Engineering company has been incorporated with a capital of $30,000, to install and operate power and heating plants and operate machine and repair shops. The incorporators are John M. Blakely, Arthur B. Wells, H. H. Talcott.

Grand Rapids, Mich.—The Weatherly company of this city has been awarded the contract to install the heating plant in G. J. Johnson & Co.'s new cigar factory, in process of construction on North Ottawa street. This same firm installed the heating plant for the Knott apartment house on Cherry street.

Master plumbers and master steam-fitters are earnestly requested to send us reports of the award of plumbing and heating contracts of $1,000 or more, as soon as these have been awarded, while the information has news value. Kindly address Editor "Domestic Engineering," 49-53 N. Jefferson street, Chicago.

New York News

New York, N. Y.—Jos. Miller, formerly at 573 Fourth avenue, has moved his plumbing business to more commodious quarters at 563 Fourth avenue.

New York, N. Y.—The W. G. Cornell Company, plumbing and heating contractors of this city, have moved their offices to the Everett building, Union Square.

Buffalo, N. Y.—The Frontier Plumbing & Heating Company of this city has secured the heating contract for County Auditor Strum's new residence located at Clarence, N. Y.

New York, N. Y.—William H. Wilson, of 2539 Webster avenue, is about to move into larger quarters at 2545 Webster avenue. Mr. Wilson has been busy for some months altering the entire plumbing system in the several buildings of St. John's College here. He is about to install plumbing in three new residences for Thomas Riley at 204th street and Hull avenue.

Harry Moss, of the sales-force of the Monarch Bross Company, of Cleveland, Ohio, passed on at the Hartford hospital, Hartford, Conn., on Monday, February 15, after an illness of only four days. Mr. Moss had been recently married and was on his wedding trip when the final summons came.

Pennsylvania

Pittsburg, Pa.—Marx Bros., of Avalon, Pa., have been awarded the contracts for plumbing two residences that are being built on the North Side for the Brighton Heights Land Company.

Wayne, Pa.—The Wayne Electric Light & Steam Heat Co. has secured the contract to install Broomell's system of vapor heating in the residence of George W. Childs-Drexel, Bryn Mawr.

Allentown, Pa.—City Engineer Chas. D. Weirbach has presented plans and specifications to the city council for a complete system of sanitary sewers, etc., for this city, to cost about $987,000.

Philadelphia, Pa.—A. McClintock has been awarded the contract for heating by steam the two auditorium and lodge room buildings for the South End I. C. C. F. Hall Association. The amounts of the contracts are $1,975 and $1,925 respectively.

Scranton, Pa.—Plans are in progress for the erection of a ten-story hotel to cost $800,000 on the northwest corner of Adams and Lackawanna avenues. Owner Casey Bros., 214 and 216 Lackawanna avenue, Scranton. Architect, Chas. R. Weatherhogg, 411 Hamilton Bank building, Fort Wayne, Ind.

WHERE IS HE?

Several friends of J. R. Eggendorfer, who some years ago conducted a plumbing business at Reno, Nev,. are desirous of knowing his whereabouts. If these lines should come under his eyes or be seen by anyone who knows where he is, the editor of "Domestic Engineering" will be glad to get his address and send it to those who desire to hear from him.

Boston and New England

Henniker, N. H.—Edward Connelly has the contract for installing a steam heating plant in Frank W. Simons shoe factory at North Weare.

Ware, Mass.—Moriarty Bros., of this place, have the heating and plumbing of the theatre building. Amount of contract, $1,600. Architect, Thos. E. Madigan.

Boston, Mass.—The contract to install Broomell's system of vapor heating in the residence of Elnora Pierson has been awarded the Felton-Turner Heating Company.

Gardner, Mass.—Frank L. Curtis, of 34 Parker street, a plumber, is the only one who has thus far applied for the position of superintendent of the town farm and his appointment is anticipated.

Worcester, Mass.—Wilfred H. Barriere has purchased the plumbing and steam fitting business of N. P. Huot & Co. The Huot firm consisted of Napoleon P. Huot and his son-in-law, Dr. J. A. Lalande.

Attleboro, Mass.—The overseers of the poor have asked for an appropriation for a new heating system at the town farm and the matter will come up in its regular order at the town meeting early next month.

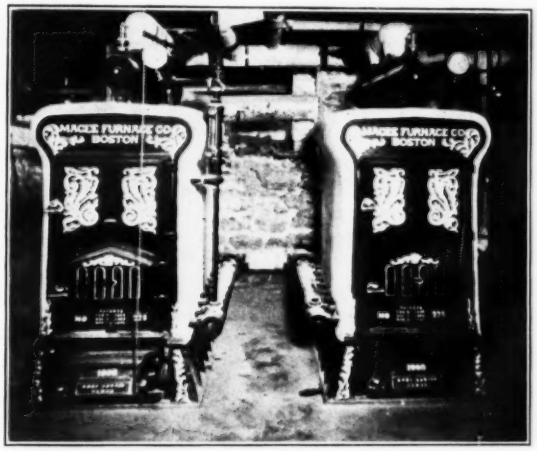
Bristol, Conn.—Roberts & Arnold have taken the contract to install two hot water heating systems in a house on Lake avenue for William Hotchkiss and also to replace the present steam system with hot water for Jason Fenno.

Somerville, Mass.—Frank W. Smith of Winter Hill has purchased the hardware and plumbing business of L. G. Columbus & Co. at Teele square. Mr. Smith was formerly engaged in the plumbing business in Chicago but was obliged to give up and come east because of ill health.

Beverly, Mass.—Plumbing Inspector Frederick W. Herrick has made his annual report for 1908, in which he reports the granting of 345 plumbing permits, and the inspection of 514 plumbing jobs and 75 sewer connections. During the year, 398 water closets were installed in the city, 192 bath tubs, 263 sinks, 206 lavatories and 87 wash trays.

Canaan, Conn.—A. J. Wigglesworth & Co. have the contract for changes in the plumbing arrangements in the house of George Luprien at Twin Lakes. The same firm has just completed a big contract for installing plumbing and heat arrangements in the remodeled residence of Mrs. C. M. Karter at Mill River and have several other important contracts in hand.

Worcester, Mass.—After a successful business career of thirty-six years, former Alderman Napoleon P. Huot has retired from active business, having disposed of his plumbing business. The past month is the first that Mr. Huot has enjoyed absolutely free in the past thirty-six years. He is 66 years of age. In an interview Mr. Huot says: "I have made my last business venture. From now on I propose to see life glide by as peaceably as events will allow. I have sold out the plumbing business which I established with my son-in-law and can honestly say that if I cared to continue business I could ask for nothing better than that of which I have just disposed. But what I want is freedom from occupation." Mr. Huot has had a most prosperous career. When he first came to Worcester he started in the hay and grain business on a wholesale scale and after a time became interested in the retail grocery business. Some years later he gave up these lines and established a plumbing business. Today he owns and rents thirty-eight tenements, two stores and two suites of assembly halls and is estimated to be worth nearly a quarter of a million dollars.



This picture shows the method of connecting the battery of boilers used on one of the largest heating jobs of the season, in the "Old Ladies' Home," located at Bath, Me. Particular attention is called to the simple and efficient manner in which the gentlemen who installed the job, J. A. & O. M. Redlon, have "trimmed" the boilers so as to work to the greatest advantage either as a unit, or separately.

Southern Notes

Lynchburg, Va.—Brown & Layne have recently completed the plumbing installation in the Virginia Christian College building here.

Chattanooga, Tenn.—R. O. Carlin, of this city, will install a heating job for the Stone Fort Land Co. Amount of contract, $1,500. W. T. Downing, architect, Atlanta, Ga.

Roanoke, Va.—A. J. Kennard will alter his premises on Campbell avenue and when operations are completed he expects to have one of the handsomest show rooms of plumbing fixtures in the South.

Versailles, Ky.—The Schefold Plumbing Company, of this city, which began business last August, has filed a deed of assignment to the Farmers' Bank and Trust Company for the benefit of its creditors.

Roanoke, Va.—Engleby, Brother & Co. have recently leased the adjoining building to their old quarters on Salem avenue and this they have equipped with a lavish display of plumbing and heating fixtures.

Bluefield, W. Va.—The Bluefield Tinning & Plumbing Company, under the management of Edward Mays, has recently completed the plumbing installa-

tion in the new P. T. Lilly building on North Mercer street.

Bluefield, W. Va.—O. V. Hefner, a courageous master plumber of this city, is altering his new building on Pulaski street and when operations are completed he will have on display a modern assortment of plumbing fixtures.

Lexington, Va.—The Valley Heating, Plumbing & Roofing Company, under the management of G. R. Kirk—formerly in business at Clifton Forge, Va.—has succeeded to the old established business of A. B. Beckwith & Co. at this place.

Roanoke, Va.—Mason Brothers, young men who have been associated with the plumbing business as employers but a short time, have built up during their brief career an enviable patronage. They have had some good residence work on their books of late.

Roanoke, Va.—W. R. Hesser, formerly situated at 332 Salem avenue, S. W., has moved his plumbing and tinning business into a modernly constructed new building at 505 Jefferson street, S. W. The structure is 100x150 feet in dimensions and offers every facility.

Roanoke, Va.—Roanoke Sheet Metal Company, a firm recently having added a plumbing and heating department to its business, reports thus far to its credit a contract under way for plumbing and heating equipment in the Roanoke Christian Church; plumbing in the Thurman-Pace-Perry building and the plumbing and heating in the handsome residence of J. H. Parrott.

Bluefield, W. Va.—W. A. Bodell, who recently succeeded to the extensive business here run under the firm name of the West Virginia Plumbing and Heating Company, has moved into new and improved quarters, measuring 80x55 feet, on Higginbotham avenue. They are well stocked and splendidly equipped. Mr. Bodell at present has underway the plumbing and heating in the new U. S. postoffice and court house here and an extensive installation of plumbing in the Bluefield high school. **E. De Forest Winslow.**

Pacific Coast

Escondido, Cal.—The completion of the sewer system means business for the plumbers. The provision of the ordinance is that connection must be made with the sewer within thirty days after notice is given by the plumbing inspector. The ordinance provides that the property owners may make their own connection with the sewer mains, provided the work is done to the satisfaction of the city plumbing inspector, M. L. Culp.

San Francisco, Cal.—Wetzel & Grass, of 105 Fulton street have been awarded the contract for the plumbing and gas fitting of the Family club, amounting to $3,200. Architect, C. A. Menssdoeffer, Humbolt Bank building. This same firm also has the contract for the plumbing and gas fitting of the five-story apartments owned by O. A. Craemer, 1637 Oak street, the amount of this contract being $7,600. Architect, Wm. Koenig, 34 Ellis street.

San Francisco, Cal.—Conditions in general on the Coast, and especially in California, are in a splendid shape and the predictions are freely made that the coming season will prove to be a record breaker in points of sales and those in the plumbing business are preparing to get their share of the prosperity. Where there was an inclination on the part of distributors a few months ago to carry the very lightest stocks possible, there is now an inclination to do the exact opposite, and goods are coming into this city in quantities that reminds one of the balmy days immediately after the great fire when supplies could not be secured fast enough to meet the demand. The new freight line across the Isthmus of Tehauntepec is proving to be quite popular with shippers, and houses that receive their goods from Eastern seaboard cities are having the bulk of their goods come by this route. The present freight rate agitation that is being waged here against the transcontinental railroad companies tapping California, is resulting in many firms diverting as much of their freight as possible to the independent water routes. Enameled goods are about the only item of interest to plumbers in westbound shipments which now come at a higher rate, and the only effect has been a slight increase here in the price to the consumer.

San Francisco, Cal.—Plans and specifications for the pipe system for the high pressure salt water plant in course of construction at Oakland, Cal. have been filed with the city council by the City Engineer. The initial plans for the system will cover sixty blocks and the system will be added to later. The system, as proposed, with a maximum length of hose of 500 feet, will give ten streams of 200 gallons per minute. This means a uniform pressure at the nozzle of 110 pounds to the square inch. The hydrants, each having connections for five streams will be placed near the mains and as near the center of the street as possible. The hydrant with its gate valve will be placed in a concrete manhole, with a cast iron cover, so that it can be repaired without disturbing the street surface. On each hydrant is a four inch connection, to which standpipes in buildings can be attached by means of an underground pipe with a gate valve at the hydrant. No connections are provided for the automatic sprinkler system as the salt water would prove to be too great a damage to stock and fixtures in buildings. The mains and hydrants are all of cast-iron and the working parts of bronze, these metals best withstanding the action of salt water. A total of 500 tons of pipe will be needed for the initial work and the chances are that this will be doubled as soon as the first section is made ready for operation.

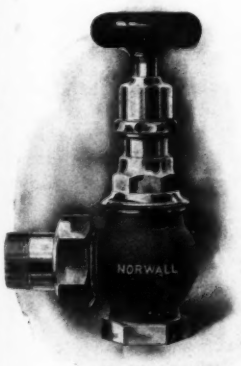
Springfield, Minn.—Power & Cogley have engaged in the plumbing and heating business here.

Omaha, Neb.—B. Grunwald, of this city, has been awarded the contract for the installation of a heating system in the new Gibbon high school building at Kearney, Neb.

De Queen, Ark.—It is stated that the American Light & Water Company, of Kansas City, Mo., has been awarded the contract for constructing a system of waterworks here. The consideration is $24,195.

More Business.

The houseowner quickly becomes interested in IDEAL Vacuum heating as soon as he learns that it gives him increased comfort from his low pressure steam heating outfit, saves from 15% to 30% on fuel bills and is quickly and easily installed.



Norwall Packless Radiator Valve

Our advertising campaign on vacuum heating by means of Norwall Automatic Air and Vacuum Valves and Norwall Packless Radiator Valves directs public attention to the value of this improved heating economy and increases the volume of business on new and old equipment for the Trade. Send for special booklet on "Norwall Vacuum Heating."

AMERICAN & IDEAL
RADIATORS & BOILERS

AMERICAN RADIATOR COMPANY

General Offices, 282-286 Michigan Ave., Chicago.

New York	Cincinnati	Cleveland	Atlanta	Brantford, Ont.	Denver
Philadelphia	Boston	Milwaukee	Minneapolis	Seattle	St. Louis
Pittsburg	Buffalo	Indianapolis	Kansas City	Omaha	San Francisco

Tips on New Work

Wilson, N. C.—A steam heating system will soon be installed in the court house.

Opelousas, La.—The city council will probably expend about $35,000 improving the waterworks and electric light plant.

Syracuse, N. Y.—Plans for remodeling the city hall at a cost of about $60,000, are being prepared by Henry C. Allen, city engineer.

Rock Island, Ill.—M. T. Rudgren, city clerk, will receive bids until March 1, 1909, for the construction of a complete mechanical filtration plant.

Portland, Ore.—J. V. Prosser will build a new hotel at Scenic Hot Springs costing about $40,000. C. G. Badgely, White building, is the architect.

Tacoma, Wash.—A sixteen-story steel frame building costing some $350,000, will be erected on the Kansas Block by the National Realty Company.

Painsville, O.—A committee has been appointed by the trustees of the Methodist Church to consider plans for the installation of a heating plant in the church.

Aiken, S. C.—Estimates for the future water supply of this city have been prepared and presented to the council by the P. H. Norcross Company, of Atlanta, Ga.

Midland, Tex.—The O'Neil Engineer Company of Dallas, Tex., has been awarded the contract at about $100,000, for constructing the proposed system of waterworks and sewers.

Los Angeles, Cal.—It is reported that the Los Angeles Athletic Club will soon erect its club house at 7th and Hope streets. The site and building will cost approximately $1,125,000.

Chicago, Ill.—Harper Brothers are said to have secured the contract to build a $40,000 apartment house at 4608 Calumet avenue for S. T. Cooper. Architect, L. M. Mitchell, 145 La Salle street.

Jackson, Minn.—Bonds amounting to some $13,000 have been sold for the purpose of improving the waterworks including a water tower and tank. L. P. Wolff, of St. Paul, Minn., is the engineer.

Chicago, Ill.—It is reported that the trustees of the Kenilworth Union Church are contemplating an addition to the Sunday school rooms and also the erection of a gymnasium, to cost about $40,000.

Harrisburg, Pa.—George E. Watts has purchased the site, corner of Front and Foster streets and will soon begin the erection of a three story up-to-date apartment house to cost about $25,000.

La Grande, Ore.—The American Light and Power Company of Kansas City have secured the contract, $160,000, for a water system, the water to be brought from Beaver Creek some eighteen miles distance.

Twin Falls, Ida.—Bids will be received until March 1, 1909, by the county commissioners for the erection of a court house and jail building not to exceed in cost $125,000. C. H. Smith, Twin Falls, Ida., architect.

Minneapolis, Minn.—Plans for an addition to the Chamber of Commerce building are being prepared. Cost, complete, $200,000, including the plumbing, gas-fitting, electric work and including the moving of the steam plant.

City of Mexico, Mexico.—It is said that a concession has been granted the Cia. Empacadora Mexicana (Mexican Packing Company) to establish here a first class packing house. About $200,000 will probably be expended upon the plant.

Atlanta, Ga.—The Wesley Memorial Church to be erected at a cost of about $200,000 and located at the corner of Ivy street and Auburn avenue will be constructed of reinforced concrete and the heating, plumbing and other fixtures will approximate $25,000.

Washington, D. C.—Sealed proposals will be received at the office of the Treasury Department, until 3 o'clock p. m., March 10, 1909, for the construction complete of the U. S. postoffice at Moline, Illinois, in accordance with the drawings and specification.

Chicago, Ill.—It is intended by the trustees of the Polish-American Institute to erect three buildings at Belmont and Milwaukee avenues, at a total cost of about $500,000. Rev. John Kosinski is secretary and treasurer, and John F. Smulski is president of the institute.

Fitzgerald, Ga.—Bids will be received until 12 o'clock noon, February 25, 1909, at the office of J. C. Knapp, mayor of the city, upon the school building to be erected here. Drawings and specifications on file at the mayor's office and at the Atlanta Builders' Exchange, Atlanta, Ga.

Shreveport, La.—It has been announced by Mr. M. Barnedum, of Pittsburg, Pa., who is a member of the Barnedum-Trees Oil Company that he has obtained control of all the Barnsdale natural gas property in the Caddo field and that he will pipe the product to Marshall, Tex., and to Shreveport.

Fort Sam Houston, Tex.—Sealed proposals addressed to L. J. Flemming, Constructing Quartermaster, will be received until 11 a. m., March 10, 1909, for the construction, plumbing, heating and electric work for two additional wards for Post Hospital and for one Hospital Corps barrack at this fort.

Washington, D. C.—Sealed proposals will be received at the office of the supervising architect until 3 o'clock p. m., March 22, 1909, for the construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the U. S. postoffice at Dixon, Ill., in accordance with the drawings and specification.

Knoxville, Tenn.—Architects are preparing plans for various buildings which will probably be erected during the coming year. Among them is a $100,000 high school building. The city has under contract one new fire hall, and will ask for plans and bids for three primary buildings during 1909. The building outlook has improved and the prospects are bright for a busy season.

Charlotte, N. C.—J. W. Wadsworth and Vinton Liddell have asked for a perpetual franchise for using streets, thoroughfares and alleys for the distribution of steam heat. They propose, if the franchise is granted, to erect a central heating plant here, to cost in the neighborhood of $1,000,000. Aldermen Bland, Garibaldi and Henderson were appointed a committee of three

to investigate and make a report at the next meeting of the board.

Advantages of Concrete Hot Water Tanks.

Judging by the interest manifested in the subject of concrete hot water tanks and by their specification and installation in preference to those of wood, it is apparent that the former have advantages which are warranted by their extra cost.

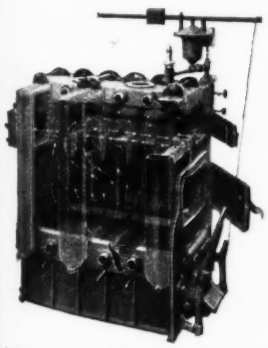
In a general way concrete is known to be a very poor conductor and at the same time a very good resistant of heat. This knowledge is more specifically brought out when it is observed that steel reinforcement within an inch to an inch and a half of such a surface remains intact and that the concrete itself undergoes little or no injury when subject to most severe heat conditions. An extreme example was recently reported by Mr. Leonard C. Wason of the Aberthaw Construction Co., of Boston, Mass., where a floor five inches thick was subjected to raging fire beneath, at a temperature varying between 1,700 and 2,000 degrees for a period of five hours, and yet the hand could be borne on the top surface without fear of burning.

In addition to the non-conductivity of concrete, the mass and thickness of the walls and bottom of a tank so constructed in order to gain strength and impervious ness are much greater than in one made of wood. Moreover, in the concrete tank, there is no greater chemical action upon the concrete by hoiling hot water or steam than there is by cold water, so that there is no danger of injury by either heat or cold. On the other hand, a wooden tank subjected to constant steaming and saturation by hot water eventually becomes leaky, and a good radiator of heat. The decay under these conditions is considered to take place much sooner than where the wood is subjected to cold water or normal atmospheric temperatures. Where wooden tanks are repeatedly filled and emptied the alternate swelling and shrinkage is cause for annoying leakage and rapid decay.

On account of the low conductivity of concrete there is no danger of serious internal stresses in the material itself due to hot water on the inside of a tank and exposure to cold on the outside; the degree of change is too gradual to cause stresses which would crack the tank. Moreover, it must be remembered that the coefficient of expansion of steel and concrete are almost exactly identical, so that no matter how great the range of temperature through which the walls may go, the steel, which perforce must vary in temperature with the concrete, will not set up any internal stresses between the two materials, but will work as perfectly at one temperature as at another. This is one of the valuable properties of the combination of the two materials for all uses—not tanks alone.

In the matter of cost the reinforced concrete tank is without question higher, but its durability, freedom from leakage and its non-conductive properties make it a better investment for the storage of hot water.

A FACT WORTH KNOWING



Improved Capitol Boiler showing construction, fire travel and waterways.

One of the features of the **Improved Capitol Boilers** is the **quick action** secured. This is caused by the waterways that extend inwardly towards the fire. The shape and arrangement **compels** them to absorb the heat. The fire entirely surrounds these waterways and therefore quick action is secured. That's why you never hear the word "sluggish" in connection with

CAPITOL BOILERS

This one point puts the **Capitol Boiler** in class by itself. Well worth remembering when you talk "heat" to a prospective customer.

HAVE YOU OUR CATALOG?

United States Heater Company.

General Offices and Works: Fort St. and Campbell Ave., DETROIT, MICH.

Branches:

DETROIT	139 Jefferson Ave.
NEW YORK	129 Worth St.
CHICAGO	34 Dearborn St.
KANSAS CITY	120 W. 11th St.
OMAHA	916 Farnam St.

Sales Agencies:

NORFOLK & RICHMOND, VA., Virginia-Carolina Supply Co.
MINNEAPOLIS, MINN., Plumbing & S. F. Supplies Co.
ST. LOUIS, MO., L. M. Runsey Manufacturing Co.
DENVER, COLO., Kellogg & Stokes Stove Co.

Plumbing Legislation

Indianapolis, Ind.—The Senate rights and privileges committee will report favorably the Maas House bill which provides for the licensing of plumbers in cities and towns of more than 5,000 inhabitants. The bill provides for the appointment in such cities and towns of a board of three examiners, the members to be named by the mayor and this board is to pass on the qualifications of the journeyman plumbers.

Austin, Tex.—The house committee on municipal corporations has reported favorably on the bill by Mr. Stepenson, amending the law in regard to plumbing inspectors, with some minor committee amendments. The bill provides that the examining board in each city shall consist of a member of the board of health or city physician, the city health officer, city engineer, city plumbing inspector, one master plumber and one journeyman plumber.

Norfolk, Va.—The ordinance committee of the Norfolk city council at its meeting last week considered proposed plumbing regulations to be embodied in the new city code. The form of the $2,000 bond to be required of all licensed plumbers was submitted, and the wish expressed by the plumbing inspector and representatives of the Master Plumbers' Association, that this bond feature of the new law be made effective in advance of the adoption of the new code, to the end that better track may be kept of by the city authorities of plumbers who are working in this city. Most of the suggestions at last week's meeting of the committee will probably be embodied in the plumbing ordinance of the new code, but the bond provision will likely not be acted on by the council in advance of the adoption of the code as a whole.

Trade Literature

From Cleveland Bronze & Brass Works, 4606-4626 Hamilton avenue, N. E., Cleveland, O.: "Catalogue of High Grade Plumbers' Brass Goods and Specialties," 16 pages, 3¼x6 inches, illustrating and describing the company's stop and waste cocks, hydrant cocks, gas cocks, compression sill cocks and compression basin cocks. The catalogue is an attractive sample of what an up-to-date printer can do in the way of good work when he makes an effort in this direction.

From the American Steam Gauge and Valve Manufacturing Company, 208-220 Camden street, Boston, Mass.: Valve catalogue, 90 pages, 6x9¼ inches, containing numerous cuts and drawings showing the construction of the different valves of their manufacture. The catalogue also contains the "Rules and Regulations of the United States Board of Supervising Inspectors of Steam Vessels" and full instructions for adjusting safety valves; also a large amount of general information concerning the internal construction of valves, and the catalogue can be obtained by sending them a postal with the tip that you saw it in "Domestic Engineering."

From Buffalo Forge Company, Buffalo, N. Y.: Catalogue No. 197, 144 pages, 6x9 inches, on glazed paper, with many half-tone illustrations and numerous interesting plans. This catalogue treats in four parts of the heating and ventilating of public buildings, heating and ventilating of industrial buildings, of their various ventilating apparatus, and lastly contains a large amount of extremely valuable data on heating and ventilating which will be found very instructive to those interested in such matters, or for reference. The catalogue is compiled in such a manner as to make it of great service to all technical readers, and will also be found of great benefit to all those who are not familiar with such systems, and will be sent upon application if you mention "Domestic Engineering."

Patents

911,569. Pump. Albert Blauvelt, Chicago, Ill.

911,688. Smoke-Consuming Furnace. Robert L. Walker, Brooklyn, N. Y.

911,748. Water Closet. John J. McGuire, Minneapolis, Minn.

911,751. Steam Heating Apparatus. Millard P. Osbourn, Merchantville, N. J., assignor to Warren Webster & Company, a corporation of New Jersey.

911,858. Stop and Waste Cock. William W. Watters, Atlanta, Ga.

911,872. Apparatus for Flushing Water Closets. William U. Griffiths, Philadelphia, Pa.

911,877. Pipe Hanger. William L. Iwan, Streator, Ill.

911,942. Water Closet Seat. Joseph P. Cowan, Pittsburg, Pa.

912,002. Radiator. Archer Landon, Buffalo, N. Y., assignor to American Radiator Company, a corporation of New Jersey.

912,009. Float Valve for Fushing Tanks. William N. Long, Eugene, Ore.

912,022. Automatically Closing Cock. Arthur O'Brien, Chicago, Ill., assignor to Eugene O'Brien, Chicago, Ill.

912,067. Radiator. Orlando T. Brown, New Vienna, Ohio.

912,073. Valve. Chris J. Christenson, Kellogg, Ia.

912,082. Valve Stem. Frank J. Dahlberg, Redding, Cal., assignor of one-fourth to Oscar A. Carlson, Redding, Cal.

912,091. Self-Closing Faucet. Patrick W. Doherty, Boston, Mass.

912,124. Fluid Pressure Indexing Mechanism. Bengt M. W. Hanson, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a corporation of New Jersey.

912,187. Pipe Vise. August Senn, Marshfield, Wis.

912,213. Damper Regulator. Harry Walker, Modena, Pa.

Burlington, Ia.—The Russell Sewage Disposal Company, of this city, has installed its sewerless sewage disposal system at the residence of Fred Reyer, Carthage, Ill.—Adv.

Withdrawn